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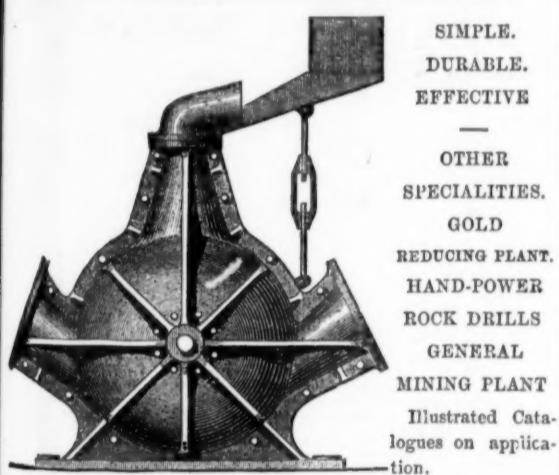
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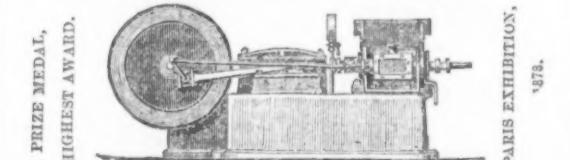
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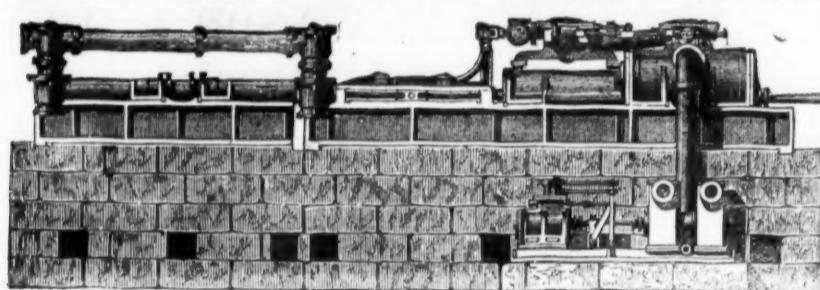
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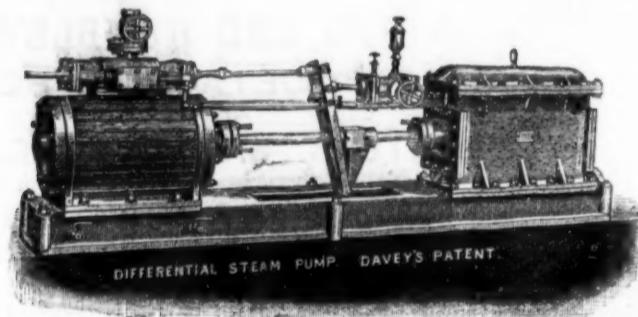
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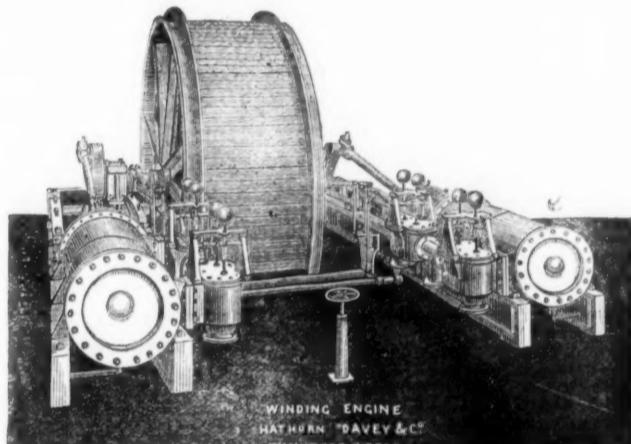
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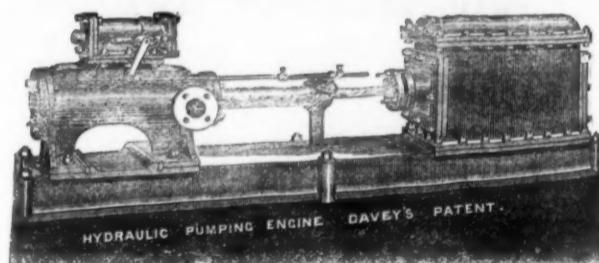


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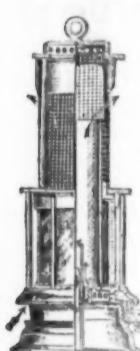
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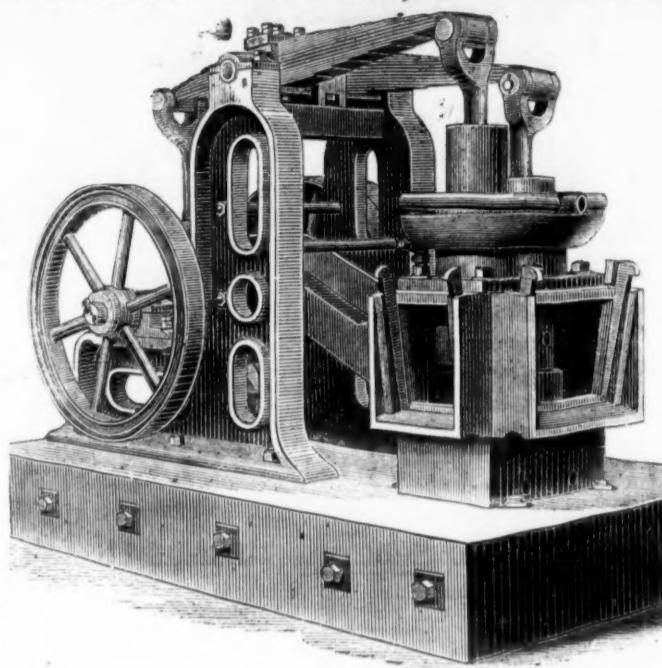
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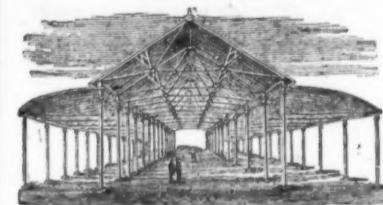
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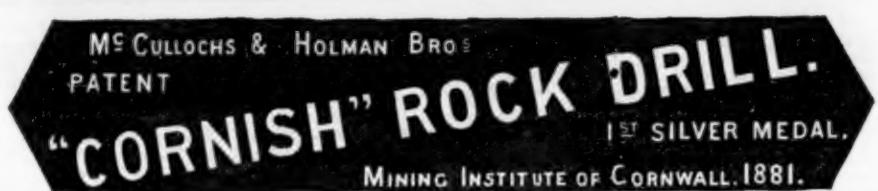
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SIR.—Having been requested by the Council to superintend the Rock Drilling Machine Contest, held at Dolcoath Mine to-day in connection with the above Institute, I beg to hand you the following report:—

The competing machines were the "Barrow," the "Cornish," and the "Eclipse"—each was fixed on the same mounting bar, and bored into the same stone. The result of the boring were as follows:—

Name of Machine.	Diameter of cylinder.	Diameter of Drill.	Time boring.	Depth bored.	Cubic inches of ground cut.	Cubic inches cut per minute.	Mean pressure per square inch.	Remarks.
Cornish	In. 3½	In. 2	Min. Sec. 1 15	In. 4½	14·1	—	—	
"	"	1½	55	9	21·6	—	—	
Total	3½	—	2 10	13½	35·7	16·4	61	
Eclipse	3½	2	—	—	—	—	—	Ran into Cornish hole; hole not properly watered.
" second try	3½	2	2 0	1	3·1	—	—	
" third try	3½	2	2 35	11½	35·3	13·6	60	
Barrow	4	1½	15	½	1·2	—	—	Gland to mounting bar broke.
"	"	—	2 0	8½	19·18	—	—	
Total	4	1½	2 15	8½	21·0	9·3	60	

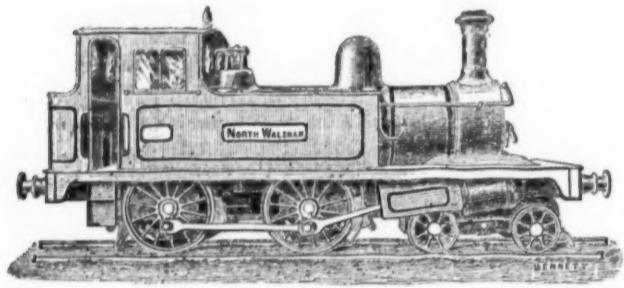
I am, Sir, your obedient servant, JAMES HOSKING, M.E.

To R. H. Williams, Esq., C.E., President of the Mining Institute of Cornwall.

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Published by Messrs Spon, Charing Cross. Price One Shilling,
THIRD EDITION.

Original Correspondence.

THE GOLD AND DIAMOND FIELDS OF SOUTH AFRICA.

SIR.—Affairs throughout South Africa present a more serious aspect than they have done for several years. Last week I had occasion to go over our northern border, close to the place where the Boers and Korannas are attacking Mankorane. As near as I could ascertain there were about 700 Boers and about 1000 Korannas entrenched about eight miles from Taung, the principal town of Mankorane. The Boers have already stolen about 2500 head of cattle from Mankorane, besides nearly all his goats and sheep. Poor old Mankorane still labours under the fatal delusion that he will receive English help; but every person in that part of the country believes the Boers will carry out their threat of exterminating his tribe. The cruelties perpetrated by some Boers on unarmed blacks are of the most revolting character, and as they threaten to serve all the English they meet with in the same way their camp is not likely to be visited by many correspondents. In the Marico district of the Transvaal affairs are no better. Volunteers are offered 10s. per day, to be paid out of stolen cattle. On the 13th inst. it was discovered that 25 Boers who had been trying to do a little on their own account were missing. General Joubert has started a large commando under Captain Ferreira, to scour the country, and it makes me shudder to think of the manner in which he is likely to perform his task.

Whilst we in Kimberley are surrounded by hostile forces we are utterly unprotected; and, while every Boer in South Africa is armed with a modern rifle and a few hundred rounds of ammunition there is not 1 per cent. of the English people who have arms of any kind. Every Boer wagon that comes into this market daily is supplied with arms and ammunition, and if the Government do not take some steps for the protection of these diamond fields I am afraid that an armed impi of Boers and Kaffirs will be tempted to take possession of and sack the place. These are no pessimist views—it is a threat the Boers have indulged in ever since they thrashed the English soldiers in Natal. The result of this state of affairs is that the most legitimate undertakings are completely paralysed, and every part of South Africa is suffering in consequence. It seems like mockery to read in the home papers statements from responsible persons as to the affairs of the Transvaal, &c., which are as misleading to the English people as they are damaging to the true interests of South Africa.

I regret to say that mining throughout the diamond fields is very dull indeed; this is owing to a combination of circumstances, not the least of which is the border troubles amongst the Boers and Kaffirs. From Jagersfontein the accounts are of a very unsatisfactory character. The want of dividends in many cases is attributed to bad management; but, whatever may be the cause, there are no dividends, and the North-East Company has collapsed. The news from Koffyfontein is encouraging, and although many Kimberley holders disparage this property I believe it to contain the Kimberley of success. Efforts are being made to puff up Olifantsfontein; but, whatever it may be, up to the present there are no indications of a payable mine. At Kamfersdal they are still short of water for washing. I saw a small parcel of diamonds from there on Saturday, which were of very good quality, and speaks well for the future. At Otto's Kopje the diamond soil they are getting at present looks well. I am anxious to see how it turns out in washing. At Bultfontein the private company—Broadbent, Wells, and Barker—is doing fairly well; but most of the other companies are going to the bad. At De Beers dividends are conspicuous by their absence; but this is owing not so much to the quality of the formation as to the way in which the concern is managed. Great hopes are entertained here that this mine is to be refloated in Europe as one company. At Du Toits Pan there has been very little change during the past week. The Grindal West Company has started more powerful machinery. I am surprised this company does not pay better dividends. The claims were only put into companies at about one-third of those of the Anglo-African, and there is nothing to choose between the quality of the ground in both companies; but the Messrs. Marks have a great deal to do with the management of the latter company, which makes all the difference. The Ne Plus Ultra Company is likely to pay a small dividend in April.

In my letter of Oct. 12, I pointed out that it would require an expenditure of \$800,000. to place the whole of the Kimberley Mine on a fair marketable basis. Of course, there are some companies from their natural position which are not so seriously affected by the reef as others; but all are more or less affected by the falling reef, and some companies representing a very large amount of capital have not seen their claims since they were put into companies, and they are not likely to see them for a very long time. When I wrote on Jan. 5 there were a very large number of claims which had been cleared of reef, and if they had remained so there is no question but that several of the companies would have paid very large dividends instead of working at a loss. I regret to say the reef is becoming more treacherous day by day, and it will continue to do so until some scheme is adopted for sloping down the sides of the mine from the surface to the igneous rock at a uniform angle of 45°. About five weeks ago I pointed out that the fall of reef in the north-east corner of the Kimberley Mine was merely the prelude to one of the largest falls of reef ever seen in the mine, and this is now taking place, much sooner than I anticipated. The whole of the east end of the mine—about one and a-half millions of tons—is on the move. This will seriously affect some of the best companies, and reduce the amount of their dividends for the first two quarters of the year. The Mining Board appears to be utterly incapable of overcoming the difficulties with which they have to contend in the Kimberley Mine.

But I am quite certain that a scheme can be introduced to relieve every company in the Kimberley diamond formation in twelve months, and relieve the mine completely of reef in two years. The Compagnie Francaise is putting up a really good engine; large for this place, but not larger than the smallest company in the mine ought to have. The Central Company, now that they have such a large number of rich claims clear, do not appear to be doing so well in proportion as they were before. The British and Barnato Companies (which ought to be one) are working with an amount of energy which is creditable to their managers. I wish I could say as much for some of the other companies. I had hoped ere this to have seen the commencement of operations in the St. Augustine's diamond formation; but, on enquiry, I find that Captain Finlason is getting all the claimholders to consent to put all their claims into one company, and thus prevent the incubus of a mining board and other conflicting interests.

The question of our future supply of fuel is beginning to cause some little anxiety, and persons who are the owners of well-wooded farms cannot fail to make large fortunes. The electric light has been introduced successfully into this place, and the Kimberley Waterworks advance rapidly towards completion. I regret to say there is a great deal of sickness in this place at present.

News from the Tatin gold fields is very satisfactory as to the quantity of the precious metal found; but I sincerely regret to hear of the death (from fever) of Mr. William Francis, who obtained a concession from the chief of the Matabeles to work quartz or other reefs. At the time of the dispatch of this said news the whole of the Europeans were prostrated with fever. At Lydenburg gold fields (Transvaal) the excitement which was got up for the purpose of trying on a big swindle in Europe is subsiding. The old diggers, who have been working their claims for some years, are doing fairly well; and the one place belonging to Lockhead and party at Pilgrim's Rest, and the property belonging to White, Cope, Hampson, and Co., at Waterfalls, are turning out very well. At Spitz Kop there is not much doing at present; but I learn from a gentleman who is an authority on the matter that there are three places that are worth the attention of a good company. On the strength of these good or promising places attempts are being made to float some really worthless concerns, and if the parties succeed it will, of course, bring discredit on the whole place, and the fairly good concerns will not receive the attention they deserve. It is, therefore, absolutely necessary that intending investors should be guided by the opinion of some trustworthy person who is competent to give an opinion on the matter. I have just ascertained that hundreds of head of cattle

stolen from our old ally Mankorane are brought here, and sold on the Kimberley market. A special despatch is now being issued by the Diamond News, which says:—

THE WAR ON THE NORTHERN BORDER—LATEST AND AUTHENTIC PARTICULARS.—Late last night we received a despatch from Taung, brought by a messenger, who left Mankorane's head-quarters on March 18. From this despatch we learn that three separate attacks have been made on Taung by the Boers, the rebel Korannas, and the Batlapini. On each occasion the attacking party were repulsed, the Boers commandant and one of the Batlapini chiefs fell. Mankorane people are in much better spirits, several of the petty chiefs having deserted the rebels and joined Mankorane. It is thought improbable that Taung will be again attacked unless the attacking force is strengthened by reinforcements already sent from the Transvaal. The Boers have, however, made a successful raid on Mankorane's cattle post, Thomeng killing and wounding several of the herds, and capturing children and cattle. From Malappo we learn on good authority that Montaieu repulsed an attack on the 17th, the Boers being driven back with heavy loss of men and cattle. We are hourly expecting further intelligence.

Kimberley, March 23.

CORRESPONDENT.

THE GOLD FIELDS OF INDIA.

SIR.—Captain Rogers' amusement and surprise on reading my letter in the Journal of April 8 may possibly be genuine, but those acquainted with him know him to be such an inveterate joker that, really, even they have hard times of it to discover whether he is in earnest or "on the bluff" (as the Americans say) unless they are well up in the subject, which he, at the time, is desirous of demonstrating, although at times he carries his joking so far that even the most disinterested can see, through his jokes, the object at which he aims. It is very evident from his letter that his surprise is real and his amusement feigned, as he has not attempted to refute any arguments in my letter which appeared in the Journal of April 8, or to answer directly any questions asked therein. His repudiation of the hint at "coercion" does not in any way show that such is not the case, neither do I say that it is so, but there are many ways in which coercive measures may be brought on and enforced, both by one's own actions and proceedings in a particular matter, and by the will and actions of others, that unless one has a will and judgment of his own, and a determination to carry out what is right in spite of all hints and wishes to the contrary, he may be unwittingly or willingly forced into it, and as I know that attempts in that direction have been made with other mine managers in different places, I cannot release myself of the impression that Captain Rogers may possibly have been a victim to such measures, whether unwittingly or unwittingly I cannot say. Let it be remembered that in his first reports on the Mysore mines, about a year and a half ago, he stated that, "there were hundreds of tons of quartz on the surface that would pay for crushing," his subsequent reports stating that he had cut quartz lodes of great magnitude, and his statement in his last week's letter that over 1000 tons of quartz is on the surface ready to crush, and that in some places the lode was "over 20 ft. wide." Let it also be known that trial crushings on a small scale with a mortar mill had been carried on at the mines without producing any result at all analogous to even his statement of 6 dwt. per ton, and that crushing with the elephant stamps had been carried on, according to his own statement, for three weeks—but I have reason to believe the time extended many days over that period—without making a clean up, although Captain Rogers in his letter states that quartz was "gold producing." It was a very unfortunate circumstance that prevented him from amalgamating the blanket sand in the new mill, although he had from October 29 to about the middle of January, when he left the mines, to do it in. According to Capt. Rogers' own statement he must have crushed close on to 100 tons of quartz with the elephant stamps, and this quartz "gold producing," surely he should have been able to find some gold, and the excuse of not being able to amalgamate the blanket sand is a very lame one indeed, and cannot possibly go down with practical men; it may do very well to tell those that know nothing about the matter. Why! I would have amalgamated it in an old wheelbarrow or something of the kind, or even got the coolies to pan it out but that I would have got some gold out of it if it was there, although Moses Rod might have been a very great auxiliary in carrying on crushing where the water required had to be brought to the stamps in chaffies on coolies heads. Con.—How many coolies would be required to supply two pairs elephant stamps and a 30-head gravitation stamps with water by carrying it in chaffies, each containing about two gallons, distance, say, about half a mile? The adaptability of the elephant stamps for quartz crushing was first tried at the Sandycroft Foundry, and at the Millwall Docks before they were sent to India, therefore Captain Rogers' statement that they were worked there for that purpose is extremely absurd; besides, it is well known with what *éclat* it was published to the world that "regular crushing had commenced at the Mysore mines" when the elephant stamps went to work. If it was only intended as a trial for the stamps, why was it published as "regular crushings had commenced"! I answer the question in this way: had there been gold found in paying quantities, or even less, it would have been continued as a regular crushing, notwithstanding the fact of its being conducted under many disadvantages, but on finding it worthless crushing was discontinued, and the report made that it was only a trial of the stamps. Will Capt. Rogers explain why the 30-head gravitation stamps were not completed? the engines for driving which were in place in June last, the boilers fixed, and preparations made for the erection of the batteries, and why this work was stopped to go on with the trial of the elephant stamps.

Capt. Rogers' undisguised pretence of mystery at the "rap over the knuckles" shows how far he is capable of carrying a joke. I can very readily believe his statement that "perfect harmony existed between himself" and the directors during his "stay at the mines," except when he was reminded that "he should not have written such a report, as it was very damaging to the property." I very well remember Capt. Rogers telling me of the great things he had there, but I do not remember ever having received an invitation to go underground in the mine, neither did I wish to do so, as I very well knew that the appearances at surface did not warrant what I heard of the great things below. It is very evident to all who make even a pretence of knowing anything of practical mining that when great things are reported to be going on below the surface soon presents an indication of it. I must thank Capt. Rogers for his explanation about trap and basaltic rocks, as also for the list of the minerals found in such rocks, but he had not vouchsafed an answer to my question as to "where paying gold mines may be found in basaltic formations?" In defending myself from the attacks of the directors of the Great Southern Mysore Company I had no intention of commenting particularly on the affairs of any other company only so far as was necessary for my own defence, but if parties connected with other mines commence picking at me they must be content to have things shown in their true light, whatever the consequences may be. And I would further remind Capt. Rogers of this aza—Those who live in glass houses should not throw stones." After Capt. Rogers's repeated assertions of "quartz in abundance," and "gold in good paying quantities" in the Mysore Company's mine, I think many of the readers of your Journal will agree with me that it is a great pity he was not allowed to remain there to make his assertions good, as I fear there are very few others who will be able to do so. On the other hand, if his repeated assertions have been proved to be fallacious and misleading, then it was quite right that he should have been superseded. At any rate, that Capt. Rogers's assertions have been more or less misleading appears to be sanctioned in Mr. Bell-Davies' report, when he recommends that "no crushing should be commenced until a greater depth is attained." In the name of common sense, I ask why crushing should be delayed, if, as may be gathered from Capt. Rogers's assertions, there are so many thousands of tons of quartz that will pay so near the surface, and which may be taken out so easily? Were I the manager of a, director, or a shareholder in a mine containing such untold wealth, I should not rest quietly month after month while no efforts were being made to return some of it. For paper mining it may do very well, but it is hardly calculated to suit the pockets of those who find the means for providing machinery, &c., to work mines in reality. Some properties, while they show nothing really valuable, may possess certain features which would warrant any one in saying that it was worth prospecting in hopes that something good might be met with. Other properties will neither show one thing or the other, and in this latter class I hold the Mysore-Colar district belongs, notwithstanding

that a few ounces of gold may now and then be met with. "A single swallow does not make a summer," nor a few good specimens of mineral a good paying mine, "The test for a pudding is eating it," and a test for a mine is the actual return of the mineral reported to be in it. Judging from the published returns from the Mysore Mine, it has not proved itself very palatable to the outside shareholders, whatever benefit the few may have derived from it.

Cowell Road, Ladywood, Birmingham. CHARLES F. BRAY.

GREAT SOUTHERN MYSORE GOLD MINING COMPANY.

SIR.—Referring to Mr. Moon's letter, in last week's Journal, concerning my statement about the few specks of copper pyrites which he showed me late one Saturday night, when I did not, as he states, venture an opinion to him, and which I treated as a joke and a bit of satire on the district, and mentioned in my letter of Feb. 18 in such a spirit, I am very sorry that he, knowing all the circumstances of the case, should have looked on it in any other light; but I can readily imagine why he should have allowed himself to be carried away with this idea just about the time he received a telegram from London, advising him that he had been superseded by Dr. Atcherley, late manager of the Great Southern Mysore Mine, and, consequently, that his term as manager was very nearly at an end. Probably Mr. Moon is the manager hinted at in the Journal of the 8th instant as having been ordered to quit forthwith because he did not believe in the gold-producing qualities of the Colar district. Surely actions speak louder than words.

CHARLES F. BRAY.

MYSORE GOLD MINING COMPANY.

SIR.—With reference to the working of the stamps at this mine, Capt. Rogers states in last week's Journal the "stamps only worked three weeks, and during that time four to five hours per day, consequently the number of tons reported to be stamped is not correct." Why does not Capt. Rogers state what number of tons was stamped, and how can he reconcile his statement that the stamps only worked four or five hours per day with the statements in his letter to the directors of Oct. 17, 1881? "I am pleased to say these (the Elephant stamps) have been working steadily for the last week, and this week I shall clean-up the rock, put through and commence on quartz broken on Rodgers' lode." Again, on Oct. 24, 1881—"I am pleased to say these (the Elephant stamps) continue to work very well, and doing good duty. It is our intention to partly clean-up, when I will send you the result as far as gone." Therefore, for 14 days the stamps were doing "good duty," and it is not until Oct. 31 that he writes—"The stamping has been carried on under great difficulties owing to the great scarcity of water." Now, which are true—the statement in the letter to the directors, or those in Capt. Rogers' letter in the Journal of Saturday last? In the directors' report extracts from Capt. Rogers' letters are given as late as Nov. 14, but there is no intimation given of any clean-up being about to take place, nor any valid excuse for its having been delayed, nor allegation that the quartz was of "the very poorest quality," as he now states. If, as Capt. Rogers states, the true reason of the stamping being suspended is the want of water, I cannot compliment him on the want of foresight he has displayed in not having excavated reservoirs in which to collect during the rainy season sufficient water to supply the stamps. If he hopes to pump sufficient water from the mine for that purpose the heavy cost of keeping the water will, I fear, render the profitable working of the Mysore Company's mine utterly beyond the range of probability or possibility.

April 21.

AN UNBELIEVER.

MYSORE REEF GOLD MINING COMPANY.

SIR.—The attention of the directors of this company has been called to a letter in last week's Journal from Mr. Moon, their late manager in India, from which the following is a quotation:—

"In the Journal of Feb. 12 is a letter from Mr. C. F. Bray, late manager of the Great Southern Mysore Mine, in which he says—'As to the quartz carrying sulphur, there is not a bit of anything of the kind to be found on the company's claim; and the only place I ever saw a bit of anything of the kind was a few small specks of copper pyrites which the manager of the Mysore Reefs brought to show me, thinking it was gold.' As the manager referred to I beg to contradict this statement. I showed the sample to Captain Bray. I also showed it to Captain Jarvis, of the Madras Mine, expressing my belief that it was copper pyrites, but in this neither of these gentlemen agreed. I said, well, whatever else it may be, I am certain it is not gold. A few days afterwards I saw Capt. Bryant, of the Ooregum Mine, and showed it to him. He at once said—'It is copper pyrites for you know I am at home amongst copper pyrites.' As a personal favour I ask the insertion of this letter, as it would be a very serious matter for anyone in my position to be supposed incapable of distinguishing between copper pyrites and gold."

In order that a just value may be placed upon Mr. Moon's statements I have to request your insertion of the following extract from a letter addressed by him to the directors of this company from the Mysore Reefs Company's Mines, under date Oct. 15, 1881:—

"Since writing the above I have got some stone from drive D, in which is a metal which if not gold I do not know what it is. My belief is that it is gold containing a large percentage of silver, because under the influence of nitric acid it becomes more gold-like by the silver being dissolved by the acid. I showed several specimens to the miners at work at the Great Southern Mysore Mine (near here), several of whom had experience in Australia, California, Siam, Brazil, &c. They all pronounce it gold. I still doubt it. Capt. Jarvis, of the Madras Mine, states his belief that it is gold. Capt. Bray and Mr. Meath, of the Great Southern Mysore, are puzzled by it."

"Oct. 15.—To-day's post brought me in the report of the assay of the stone sent to Madras. From it you will see that the stone contains a small percentage of silver. This strengthens my belief that the metal discovered yesterday is gold, containing much silver."

There can, I think, be no doubt of the identity of the two incidents referred to in the above extracts.

Bishopsgate-street, April 20. HUGH W. TULLOCH, Secretary.

INDIAN MINING—SOUTH-EAST WYNAAD.

SIR.—I observe that in the report of the meeting of the South-East Wynaad Company, in last week's *Mining Journal*, Mr. O. Pegler stated that he had inspected all the gold bearing reefs in that (the Wynaad) district. As one interested in the Simons' Reef and Carta Para Companies I should much like to know—and doubtless many others would also like to know—whether he inspected the great reef which is described as running right across the whole of Simons' Reef Company's Estates? and if he did inspect it what he thinks of its value and of the prospects of the Carta Para Company? By the way no reports from this company's officers in India ever appear in the Journal. Why is that I wonder?—St. Leonard, April 17. P.

THE GOLD FIELDS OF SOUTH AFRICA.

SIR.—Whilst the Kimberley Correspondent of the *Mining Journal* confined his remarks to the diamond mines and diamond companies of South Africa, although I understood the motives that dictated them, I did not think it worth my while to criticise them, for I saw that other and able pens than mine had taken them in hand. But now when I find the same Correspondent attacking my private concessions in the gold fields of that country, and by insinuations endeavouring to get the British public to suspect that my co-partners and myself are bent on inducing the capitalists of this country to invest in the Tatin gold fields by bribes and other malpractices, I think it due to myself and my co-partners to offer a remark or two on the letter of the "Correspondent" which appeared in the *Mining Journal* of April 8. He writes:—"News from the Tatin gold fields is of a very satisfactory character as to the yield of gold, but the latest private advices state that the natives are in such a ferment that they (the diggers) expect to have to retire into the interior for safety. If any English speculators become infatuated with any gold samples they may see exhibited I should advise them to get the place inspected by an experienced man who is above being bribed, and whose head is not turned by the sight of a few ounces of gold." Of course the object is to get "the experienced man," a new title for "The Mining Engineer," who "Correspondent" co-operates with, into a job which would bring him a handsome sum as commission. I venture to say that I have had as much experience in gold fields as any man that the "Correspondent" has in his eye. I have since 1859 been constantly at work in diggings in Australia, New Zealand, and South Africa, and my head is not likely to be "turned by the sight of a few ounces of gold." In 1869 I crushed for the Australian party, of which I was one, Tatin quartz giving 11 ozs. to the ton, and 600 lbs. of quartz I brought home to London from the Tatin was

the United States, reserved from sale.—10. That courts of law as well as equity have authority to declare the patents void.—11. That as both patents are void defendant acquired no title therunder, and has no right to convey, and plaintiffs are not entitled to a decree declaring the defendant to hold said patents in trust for them, and to compel a conveyance of all rights therunder. That the judgment of the district Court is reversed, with directions to enter a proper judgment in favour of plaintiffs for all that portion of the mineral lode west of the westerly end of the Tiptop claim, and to make the injunction against the defendant perpetual. Also judgment in favour of plaintiffs for costs. Judgment to be entered in favour of defendants for that portion of the lode easterly of the west line of the Tiptop claim.

The immediate effect of the news of the decision in favour of the Albion has been to raise the spirits of everybody in Eureka. It is certain that we will have another great mine set to work immediately as a separate and distinct property, in which a large number of men will find employment. This will help business of all sorts in Eureka very much. It brightens the future of the camp, which, six weeks ago, before the flattering discovery in the Eureka Con., was not over bright for the spring opening. The only recourse left the Richmond Company is to appeal to the Supreme Court of the United States, which it may do on a writ of error.

EBERHARDT AND AURORA, AND THE CONSOLIDATED (LATE SOUTH AURORA) SILVER MINES.

SIR.—The report from Capt. Drake of the Eberhardt, published in last week's Journal, must be very gratifying to the shareholders of both companies. Great credit is due to the directors and Capt. Drake for the plucky manner they have stuck to the work, and it is to be hoped they will be rewarded. Might I suggest to the secretaries of both companies to let the shareholders know as early as possible of any further important discoveries? A. B.

EUREKA (NEVADA) MINING DISTRICT.

SIR.—I have the pleasure to enclose my usual budget of news received from this mining centre:—

The mining outlook of Eureka has improved vastly in the past three weeks, and is to-day the richest mining district in Nevada. This is no idle boast.—The coal-burners are making arrangements to get to the mountains as soon as the snow disappears.—A number of ore teams came down from the mines on the western side of the mountains yesterday.—A large amount of ore has been accumulated in the mines on Prospect Mountain, which will be sent to the furnaces as soon as the roads will permit of transportation.—The stockholders of the Eureka and Colorado River Railroad will hold a meeting at the company's office in Eureka at 12 o'clock to-morrow, for the election of directors and such other business as may come before the meeting.—The snow ploughs succeeded yesterday in opening the Ruby Hill Railroad, and regular trips were again commenced last evening. Some of the furnaces would have been compelled to shut down for want of ore in a day or two if the blockade had not been raised.—Although Eureka Con. passed its dividend again this month it is almost certain that Old Reliable will make the stockholders glad in April. The company's finances warrant it.—It is reported that if the snow blockade is not raised very soon, the Eureka Con. will be obliged to shut down the furnaces until the road to the mine can be opened. In any event, the stoppage would not last more than a day or two.—It is now positively asserted that the Eureka Con. Mine has larger and richer bodies of ore than at any time previous for two years. Look out for regular monthly dividends for the next two years.—For the first 21 days of this month Eureka Con. has shipped nearly \$10,000 in bullion.—The Eureka Tunnel and Mining Company yesterday made their final payment to Messrs. Field and Malloy upon the purchase of the El Dorado, Kitty, and Grindstone mines. It is now the intention of the company to prosecute work upon these mines more vigorously than ever.—One of Brox's big teams, engaged in hauling ore from the Eureka tunnel, got stuck in the mud yesterday. The wagons will probably be dug out to-day.—The tributaries who recently commenced work on the Eureka tunnel already have very flattering prospects.—The Eureka Tunnel Mine is reported to be looking better than ever before. The ore is abundant and of high grade. The company have 100 tons of ore ready for shipment as soon as the roads will permit of hauling.—The Eureka Tunnel Company will have 35 or 40 men employed to-day in shovelling out a road to the mine.—The Eureka Tunnel Company is making daily shipments of ore to the Eureka Con. works.—It is pretty generally conceded that the Richmond Company have encountered an extensive body of ore on their fourth level, and that it is in close proximity to the Albion Company's mine. We hope it will prove to be an immense bonanza.—The amount of lead stacked up at the Richmond works is estimated at 12,000 tons.—A large number of heavy mining timbers are being hauled to the Albion Mine.—Mr. Charles Broy yesterday received a contract from the Albion Mining Company to haul 50 tons of ore down from the mine to the Eureka Consolidated furnaces. The contract will commence on the 11th of next month.—Good ore has been struck in the shaft of the Horace Tonner Mine. They commence operations this morning. Probably there will be a large amount of work done in this mine during the present year.—One from Denville, near Grantsville, is being shipped to San Francisco for reduction.—Mr. E. N. Robinson has purchased from W. B. Moody five lots on North Main-street, which will probably be used as a site for the Albion smelting works.—Superintendent Sturgis, of the Matamoras Company, left this morning for Chicago. He will probably return in four or six weeks.—It was reported, and it seems not unlikely, that the Ruby and Dunderberg has quit shipping ore to the Eureka Consolidated furnaces, and will soon start up a furnace of its own on its own ore. It was rumoured last night that the Matamoras, also, will start up a furnace on its own hook some time in the near future. Good signs.—The out-look along the whole line hereabouts is breezy and wholesome. The Bullstone Mine, situated on the west side of Prospect Mountain, located by W. O. Mills, jun., was re-ordered yesterday. It is stated on good authority that the Jackson Company will soon commence mining operations, and that Mr. William H. Shaw, formerly superintendent of the Eureka Consolidated, will have full charge of affairs here. This is encouraging for Eureka.—Four large teams, loaded with machinery for the Geddes and Bertrand Company, found it impossible to cross the summit yesterday, owing to the deep snow, and were compelled to return to town. The Geddes and Bertrand works will be ready to start up about the middle of May next.—It is thought that the Geddes and Bertrand Company's leaching works, now in course of construction, will be in operation in two months.—Superintendent Tom Robinson of the Bay State Mine was in town on Sunday. He reports the mine as looking exceedingly well, and he will ship ore to the Richmond works as soon as the roads are in condition to haul.—The Brunswick mill, on the Carson River, will start up on Ophir ore within a day or two.

RUBY HILL.

MINING IN NEW SOUTH WALES.

SIR.—There has recently been a new gold field opened up in the far interior of the colony, the yields from which have been very good so far, and will doubtless be much better as soon as rain falls and enables them to wash-up, and also to begin crushing. But outside this, some of the discoveries are geologically interesting as you will see by the enclosed extract from the Sydney Morning Herald, of March 2:—A number of fine fossils just brought down from Mount Brown by Mr. W. H. J. Slee, the Mining Warden of that gold field, were on view yesterday at the office of the Minister for Mines. The cretaceous beds from which these come entirely surround the older granite. The Devonian, or Silurian formation, in which the auriferous reefs occur, have been proved to contain gold derived from these older rocks, and they are, moreover, the strata in which good water has been struck, and in which artesian water will probably be struck on deep boring. Among these collection of fossils are the following:—Gypsum in large pieces, crystal of salt (chloride of sodium), quartz with gold, spherical ironstone concretions, remarkable hollow ironstone concretions, cast of cretaceous fossil pecten, the original shell completely replaced by gypsum, common opal with dendrites, petrified (silicified) wood, ironstone conglomerate, limonite iron ore, granite (auriferous), water-worn pebbles from Devonian conglomerates, green sand clay (cretaceous), with fossil wood, large ammonite, the shell of which still shows the nacreous lustre with a beautiful play of colours almost equal to precious opal. A fragment of belemnite accompanied this, got at a depth of 180 ft. from the surface. Mr. District-Surveyor Vickery, from Willcannia, has also sent to the Museum of the Department of Mines a collection of fossils, including ammonites, belemnites, and bivalve shells from the cretaceous strata where Mr. Slee's fossils came from. Mr. Slee has also brought some photographs of various localities on this gold field. These with the fossils, may now be seen at the Geological Museum of the Department now being arranged in the Garden Palace. R. D. A.

Sydney, March.

VALUE OF MINES, MINING COMPANIES.

SIR.—I have to thank you for the courtesy of giving space in the Journal to my letters on the above subject. The object of the letters has been first to make clear to your readers the animus and pretentiousness of a person professing to write on their behalf, calling himself "Mining and Civil Engineer;" and next to give some broad lines upon which an approximation to the real value of a mine may be arrived at. Of the success in the first no better proof is required than your correspondent's letter in the Journal of the 15th inst., in which—not being able to combat the facts brought against him—he can only endeavour to trumpet his own importance, and belabour me with vulgar abuse. The second object—as stated in my last letter—is a very difficult one, the matters to be considered being so varied and different in each particular case, but the points laid down are based upon a long experience both at

home and abroad, and in almost every kind of mine. Your correspondent's speculations and assertions as to who I am are amusing in their being so ridiculously wide of the mark. As to who he is I do not feel the slightest interest. What he is has been abundantly shown, and it is rather saddening to see there are men who, to vent some petty spite and to endeavour to figure as persons of importance, are capable of insinuating dishonesty in others, under the pretence of doing a public good. In conclusion, I hope your correspondent will profit by the exposure he has received, and again I thank you for your courtesy.—Italy, April 18. CAREFUL EXAMINER.

GOLD MINING ASSOCIATION OF CANADA.

SIR.—Certain properties on the River Du Loup in Beauce county, Province of Quebec, Canada, at one time held by the Atlas Mining Company, the St. Lawrence Mining Company, James Foley, and John and Alexander Cathcart, are now in the possession of the company named at the head hereof. Can any of your readers aid me in my desire to learn whether these properties have ever been worked before, and if so, with what result? H. W. HIGGINS. Windsor-road, Holloway, April 19.

PRACTICAL MINING INSTRUCTION IN GERMANY.

SIR.—Many of the readers of the *Mining Journal* being interested in the question of practical mining education, some account of the comparative advantages afforded by Clausthal and Freiberg may supply a want that occasioned me much trouble when selecting a field for the prosecution of my own studies. The advice of an eminent mining authority ultimately led me to follow the practical courses of Clausthal in preference to those of Freiberg, and having subsequently spent some time at the latter place, my own experience convinced me that it is best to follow the full course at Clausthal, and to conclude with a few weeks devoted to the specialities of Freiberg.

The Clausthal veins being of great width, up to 25 or 30 metres, and situated in very fissile rocks, present the most complex examples of the employment of wood, iron, and stone, for purposes of support, as well as the great difficulties in stopping, the disposition of winzes, &c. The Freiberg veins being thin, and situated usually in a compact gneiss that cuts like cheese, the mining is of the most elementary character, such as may be studied in some subordinate veins at Clausthal, or at St. Andreasberg, within a moderate walk. Nearly everything at Clausthal is worked by water-power, the collection and adjustment of this power forming one of the special subjects of practical instruction; but coal is abundant in the neighbourhood of Freiberg, so that the Cornish pumping-engine and ordinary winding engines are there employed in all cases of difficulty. The mines of the Hartz district present a greater variety than those accessible from Freiberg—for no English student need visit Freiberg with a view to the neighbouring coal mines, any more than for the study of steam-pumping and winding. The Hartz mines are worked by the Imperial Government, while those of Freiberg are nearly all private, and paying poorly or not at all. The student at Clausthal has consequently the free run of the mines under regular practical direction among the Government officials, whose duty it is to render him every assistance without payment. The student at Freiberg is admitted on sufferance among the starving miners and ill-paid foremen of mines belonging to different private companies, who necessarily regard the students as a nuisance, of whom the less seen the better. Practical men who have paid flying visits to German mines have expressed to me the impression that the Government mines are worked without sufficient regard to the saving of labour, timber, &c.; but, having paid special attention to this point, I ascertained that in every apparent case there were local reasons, such as the relative price of labour and timber, the nature of the vein, and the conditions of working, which completely explained the apparent want of economy. The directors of the Freiberg School of Mines, moreover, assured me that as a rule Government mines were by no means more expensively worked than private ones, and no opinion could be less prejudiced in this matter. On the whole, I am convinced that a student can almost as easily learn practical mining in Cornwall as at Freiberg; while in the fittings and modes of work in the Freiberg mines there is scarcely anything that cannot be as well or better studied in England. Clausthal, on the other hand, affords those facilities for practical learning which cannot be obtained in private mines, and the methods of working, as well as the fittings and machinery of every description, are as different from those of Cornwall as can be found.

As regards ore dressing, Clausthal possesses the largest and most elaborate dressing-floor in the world, constructed about a dozen years ago, and fitted with the most recent and constantly improved machinery. Other large dressing-floors, constructed with the latest improvements in both machinery and disposition exist in the neighbourhood, and numerous smaller floors present a historical series of more old-fashioned and simple adjustments. At Freiberg insignificant little floors on the different mines maintain a struggling existence, employing the machinery long abandoned at Clausthal as fixtures, or occasionally preserved there as curiosities for the benefit of students and visitors. A few theorists may defend the ponderous non-continuous shaking table, the nicking-budle, or the intermittent jigger, but unless for subordinate or exceptional work the employment of such machinery is out of date, and the real reasons for its retention at Freiberg are simply the want of capital for substituting proper apparatus, and the want of workmen able to deal with novelties. At St. Andreasberg where the ores are fully as delicate as the most troublesome of those treated at Freiberg, the old machinery was formerly employed, but has been long replaced by that of the Clausthal type. The remarks already made regarding comparative facilities of practical study in Government and private mines of course fully apply as regards the dressing-floors. Coal-dressing between Freiberg and Dresden is performed in a very similar manner, but coal can be better studied nearer home.

As regards metallurgy, the student at Clausthal has the free run of the Clausthal Smelting Works, and is required to take part in the work of each furnace in succession, as well as in all the subordinate and preliminary operations, under the daily superintendence of a director, whose principle is that every operation should be learnt with the hand. The other works in the Hartz district (Tautenthal, Oker, Altenau, St. Andreasberg) can be frequently visited, so that the extraction of lead, copper, and silver from various ores, and by the most varied processes, can be very fully learned, together with subordinate and allied processes, such as the production of sulphuric acid and the separation of gold. The Freiberg Works, although on a finer scale, are comparatively monotonous; the Pilseener Furnace is almost exclusively employed, and the Pattinson process, later superseded throughout the Hartz by the various forms of the zinc process, is still maintained. The Freiberg amalgamation process no longer exists, and no true copper smelting can be there studied. A little zinc extraction, various forms of arsenic work, and the extraction of bismuth from cupellation residues, are the only specialities that cannot be studied in the Hartz. The presence of bismuth prevents the adoption of the zinc process for desilverisation. On the whole, there is more of generally useful practice to be acquired in the Hartz smelting works than in those of Freiberg, and the foreigner is only admitted to the latter under jealous supervision, and with extremely hampering restrictions.

As regards mining surveying, the facilities afforded in the Government mines of Clausthal are exceptional, the peculiar complexity of the workings present excellent practice, and Prof. Borchers is the author of the best existing work on the subject. As regards geology, the environs of Clausthal present a field in which nearly every formation may be studied in perfection, and the geological map of the Hartz, which will be published immediately, will be one of the most perfectly executed that exists. The director of the Clausthal School of Mines, who conducts numerous geological and mining excursions in the neighbourhood, is the author of the best existing work on mineral veins.

The practical courses in mining and ore dressing last 16 weeks at both Clausthal and Freiberg, but occupy five days per week at Clausthal, and only four days per week at Freiberg. The smelting course at Clausthal occupies eight weeks, that of Freiberg occupies "some weeks," and there appears to be no regular course at all.

In conclusion, I may remark that Clausthal is in all respects cheaper than Freiberg, and that the smaller number of students at the former place is naturally a great advantage in matters of practical study. These latter advantages will not be of long continuance, for Clausthal is already the head mining and smelting establishment of the German Empire, and the reputation of Freiberg, associated with Werner, Cotta, and other famous names, and formerly the best mining school in Europe, is probably in these days of centralisation destined to be superseded.

April 17.

P. W. STUART MENTEATH, A.R.S.M.

EARLY RECOLLECTIONS AND RECENT EVENTS.—No. I.

SIR.—Having through a kind Providence lived beyond "three-score years and ten," and having, therefore, a knowledge of some things of which but few comparatively have any knowledge, I propose, with your permission and approbation, to convey through the *Mining Journal* my "Early Recollections," or recollections of my early observations. I commenced my "pilgrimage," so to speak, in the year 1802, in the neighbourhood of Helston, in Cornwall. That town, which is a parliamentary and municipal borough, was then said to be the most "aristocratic" town in the county, because so many well-to-do genteel families resided there, all of whom are, I believe, off life's stage, leaving few representatives. Amongst the rest there was John Trevenen, Esq., J.P., who erected that large granite house in Coinage Hall Street, now occupied by Mr. J. W. Tyacke, solicitor. Mr. Trevenen was very good to the poor. I think he died about fifty years ago. In Coinage Hall Street there was a house for the coining of tin, which ceased to be used about 40 years ago. Truro, Penzance, and two or three other towns, had also coining halls. The site of the coining hall in Truro is now covered by the Cornish Bank (Limited). Another independent resident in Helston was Mr. Johns, who occupied the large house in Church-street. The late Rev. G. R. Grylls, who was a large landowner, and held the church livings of five parishes, lived in the neat house facing Cross-street. Mr. Thomas Grylls, solicitor, agent for the Duke of Leeds and other large landowners, who died of poison, self-administered, in the year 1809, lived in the house contiguous to the offices of Mr. Hill, in Cross-street. His son, Mr. H. M. Grylls, who succeeded him in his profession and agencies, died in 1834, at his country residence, Bosan, St. Anthony, in Menegue; and his other son, Glynn Grylls, died about twenty years ago in Cross-street. In the same street lived Mr. John Borlase, at one time a partner in the legal firm of Grylls and Co. Also his son, George Simon Borlase, who was I think for many years a purser in Great Work Mine, and also connected with Wheal Vor, as a member of the committee of management. He died about forty years ago. Mr. John Borlase had an income from land of about 2000/- per annum, which was more than he expended, but he had such a groundless apprehension of wanting the necessities of life that he begged the clerk of the Helston Union to get him a room in the house, as he would have to go there. Colonel Passingham, who I think built the house at Bonython, in Cury, lived some time in Coinage Hall Street. In the same street there lived a Mrs. Robinson, an independent lady, in the house lately occupied by Mr. T. W. Edwards, conveyancer. Mr. Edwards, as conveyancer and auctioneer, saved about 10,000/-, which he invested in real property, which a few years ago he had to sell to clear his liability as a partner in the Helston Banking Company, but enough was left to keep him from dependence. Mr. H. Rogers, solicitor, undertook to pay 10s. in 1/- to the creditors from the assets of the bank, and did so in due course. The Union Bank of Helston (Vivian and Co.) was placed in liquidation about four years ago. Mr. G. S. Bolitho, the rich banker, tin smelter, and landowner, of Penzance, took the assets and paid 15s. in 1/-. The principal portion of the assets was the landed estate of Mrs. Vivian, the widow of Mr. John Vivian, formerly a partner with Grylls and Co., who lived at Pencalenick, near Truro, where he had nearly 1000 acres of land. This is now the property of Mr. H. M. Williams, who is building a splendid mansion at Pencalenick (the old one being demolished), commanding a view of Tresillian Creek—an arm of the Truro river.

I remember the Rev. Thomas Hill, when he was Vicar of Wendron, in which the borough of Helston is situated. He died about 50 years ago. It was said of him that to show his liberality he caused to be distributed amongst the poor of the parish the carcass of a bullock which had died a natural death. Mr. Tobias Martin, an agent at that time in Wheal Vor, made the circumstance the subject of a poetical composition, which occasioned great fun.

Wheal Trumpet, in Wendron, 60 years ago was worked by the late Capt. Thomas Teague, of Redruth, who I believe gained money out of it to enable him to set on Tresavean, from the working of which he gained about 100,000/. But he was so fond of speculating in mines that he did not leave much at his death; nor did it much matter, as he had no children to maintain. The mines which he left in operation were conducted after his decease by the late Capt. Wm. Richards, the father of the lately deceased Capt. Thomas Richards, of Redruth. Capt. T. Richards was an exceptional manager in one respect—he would never confer with his subordinate agents as to the price to be paid for sinking or driving, or as to the tribute pitches what proportion of ore should go to the men. He was said to be a good miner, but he was too dependent on his own judgment. He set to work a good many mines. He was manager or purser of nearly 20 at one time, but only one of them gave profit—Wheal Kitty, in Lelant. I can name some of the mines he had under his control:—Great Wheal Alfred, West Alfred, Treloweth, Wheal Kitty, Wheal Squire (St. Erth), St. Aulby and Grylls, Prosper United, Trebarvah, Wheal Basset, Trefusis, West Trefusis, and many others.

Trevarno Mine, in Sithney, in the land of Mr. W. B. Smith, was, I believe, first worked by the late Mr. C. Wallis, the former owner of that and other lands, which were devised to the late Mr. C. W. Popham. Mr. Wallis was a somewhat eccentric man. I will give you one instance as a proof. When he employed Capt. John Pearce as agent at Trevarno Mine about 70 years ago he requested him to take oath that he would do everything honestly. Capt. Pearce replied that he would act honestly, but to swear to do so was unusual and unnecessary, and he declined to swear. Wallis worked the mine but a brief period. In 1824 he granted a lease of it to Messrs. Thomas Teague and John Silvester, of Helston, for which he charged nothing and they did nothing. It was last worked about 40 years ago by Messrs. John Taylor and Sons, but without success. It deserves I think no further trial. The same Capt. Pearce about the year 1800 leased Messrs. Williams, of Scorrier, to take a lease of Godolphin Mine, where my father had discovered a rich copper lode close to the surface in his streaming operations. They derived nearly 100,000/- profit from the working, which ceased about the year 1809. The next, and last, company who unwise worked the mine lost about 150,000/-.

About 100 years ago the late Captain Phillips, of Godolphin, set to work Greatwork Mine, in Breage, and before he relinquished it the profits were very considerable, about 100,000/. About 70 years ago I used to pass through the sett in my way to a child's school, and to amuse myself by casting stones down a shaft which is situated at the junction of the roads to Trevithen and Germoe respectively. The mine was then idle. Captain Phillips was the father of Mrs. Tyacke, the wife of the late Mr. R. Tyacke, who succeeded his father-in-law in the occupation of Godolphin House and farm. When Captain Phillips came to die he said "What a shame it is that just when a man learns how to live he must die!" Mr. Tyacke, or, as he was usually called, Captain Teague, erected a water-wheel to try Godolphin south lode, which even now is considered by some worthy of further exploration, although the last Godolphin Company left it poor. He also worked Wheal Breage, which is now consolidated with Greatwork. When Messrs. Gundry, who started Wheal Vor, became bankrupt in 1819, Mr. Tyacke purchased shares, and became manager and purser, and continued so till his death in 1825. He left ample property to his widow and children. His only surviving son is the Rev. R. Tyacke, vicar of Padstow. His other son, Mr. T. P. Tyacke, solicitor, of Helston, died about 12 years ago.

The working of Greatwork was resumed in 1825 by a Helston party, and has continued to work nearly ever since, but latterly on a

small scale. Captain Teague, of Tincroft, is the present owner, and intends to explore it largely. I remember that in the year 1816 Captain Thomas Carter was the principal agent at Wheal Breage, whose son was clerk at Greatwork 40 years. There was another agent at Wheal Breage, called Clement Mollard, who was dismissed because of a joke! A merchant called at the mine when Mollard said, "You had better get your money while there is any left!" or words to that effect. These words coming to the ears of the purser (I think Tyacke) Mollard was dismissed at once.

Mr. John Silvester, of Helston, was the mineral agent for several landowners, and was largely connected with Greatwork, Great Wheal Vor, and other mines. He began life as a bumble-boy at about half-a-crown a month. He rose to become the proprietor of the Star Hotel, Helston, which he kept for many years, and then rebuilt it. He was also the proprietor of a great many other houses, and of one freehold farm. He had two sons and one daughter. The eldest son lived fast and died early. The second son was, I believe, killed by a fall from a horse. The daughter married Mr. Jas. Clarke, a spirit merchant and innkeeper at Penzance and Helston, who, with his two sons, used up all that was left of Silvester's savings. The family, I believe, is extinct. "Silvester's Buildings," a mile and a half east of Helston on the Falmouth road, keep the name alive, the words being inscribed in the granite front. Clarke and one of his sons were killed by falls from horses. R. S.

Truro, April 18.

EAST WHEAL ROSE, TRESAVEAN, MOUNT'S BAY, AND OLD SHEPHERDS MINES.

SIR,—Having business in Cornwall in Easter week I took the opportunity of visiting the above properties, and as the information I acquired may be of interest to my many brother shareholders numbered among the many subscribers to the *Mining Journal*, I hope you will give space to this short communication.

EAST WHEAL ROSE.—I found the 90-in. engine here almost complete, and the house ready for the reception of the 100-in. engine. These will form by far the most powerful pumping machinery on any mine in England. The agent (Capt. Doidge) and the engineer (Mr. Matthew Loam) have perfect confidence that they have mastered the water difficulty, and that they can successfully drain the old rich part of the mine. Then there is a large area of virgin ground in the sett lying between the old mine and Cargoll, and containing the lodes which proved so rich in both these properties. Middleton's lode, which gave such enormous returns, preserves its old characteristics, and would appear to be as rich as ever, while from the Innes lode an immense pile of beautiful lead and blende has already been raised. The dressing machinery, which a mining engineer told me is the most perfect ever devised, will soon go to work, and shortly thereafter a large sale will be made.

TRESAVEAN.—The 90-inch engine was started here on Wednesday, April 12, amidst the ringing cheers of a host of miners, who expect this mine to revive all the glories of the Gwennap district. I conversed with many experts on the mine and neighbourhood regarding the prospects of this undertaking, and the unanimous opinion was that the mine is a magnificent property, similar in situation, in history, and in characteristics to Dolcoath. Already from above adit a mass of rich tin-stuff has been drawn by a portable engine from Caddy's lode, and trams have been laid down for the transit of the ore to the stamps, which are erected. Crushing and returns will, therefore, commence at once. As regards the old mine Capt. Prisk gave personal testimony at the starting of the engine to the innumerable reserves of tin standing in the various levels ready to be broken as each level is unwatered. To show the confidence of the former owners I was assured that the late Mr. Michael Williams offered to put down 10,000/- to work Tresavean for tin years ago. The machinery here is of the most substantial character, and the granite shaft unequalled in the county.

MOUNT'S BAY CONSOLS.—At Trebarvah the patience of the agent has at length been rewarded by a good course of copper ore at the 62 fm. level. When I visited the mine a large amount of stuff was being raised and dressed. At Pembro the engine will go to work in a week or so, and the prospects are highly favourable. But Sydney Cove, where the engine has been at work for two months, seems the trump card. It is an immense hill of tin. From the lodes already discovered 20 tons of tin can be stamped monthly, and as this is almost at surface what must the wealth of the mine be in depth? I prophecy several thousands of pounds of profit as the result of the next 12 months working, or sufficient from one of the three properties to pay a good dividend on the entire share capital. Browne's lode, a champion lode for tin, and the famous Great Wheal Vor copper lode will shortly be cut, when returns will be immensely increased.

OLD SHEPHERDS is a universal favourite in Cornwall, and is more than a speculation. The western ground is producing fine silver-lead. The 80-inch engine was started on Saturday, April 15. The haulage will be broken up and dressed immediately, Green's dressing machinery being complete. This, without an ounce from underground, will produce thousands of pounds. The building, machinery, and shafts are of the most substantial and lasting character.

In conclusion, I have to invite any experts or shareholders to visit these properties and judge for themselves of their prospects. The amount of solid work done during the last year is astounding. I would make bold also to give shareholders a little piece of advice. While the shares can be got at or below par increase your holdings. They will all run up to high premiums when the truth about them becomes known. I enclose my card, and may say that I have no connection with the direction or management of the mines, but am simply—

A PLEASED SHAREHOLDER.

London, April 19.

MULBERRY TINWORKS.

SIR,—As I know you are always willing to insert particulars of mining properties, and especially if these particulars are of the nature of good news, I have taken the liberty to send you this letter, hoping you will favour it with a place in your excellent Journal. I am happy to inform you and your readers in general that the above excellent property still continues to be prosperous, and its intrinsic worth constitutes it the hope of the neighbourhood. It is of established worth and well-won repute, and, even at the rate at which it has been carried on, has been a great success. But it has long been felt that more extensive operations were necessary, as the tin-stuff can be supplied in quantities without limit, and it was only a question of output and reduction of material on a larger scale to secure commensurate increase of profits. This fact has not escaped the notice of some of our mining experts, and consequently the old proprietors have been bought out, and a new company has taken possession of the works. In all matters of this class the elements or conditions of success are—capability of development, intrinsic worth, sufficiency of capital, and spirited operations and management. And all these conditions we are assured are supplied in the present property and company. That the works possess the first two elements is a fact apparent to all, and that the new company possess the latter two we are glad to say sufficient evidence is at hand. We have already remarked that the mine has hitherto worked with excellent results, but on a small scale, and we are glad to be assured that it is a fact that the present company in the short space of one month from completion of purchase have already made provision for an additional hundred heads of stamps.

This is a fact of excellent omen, both for the shareholders and for the neighbourhood, as it will secure much larger returns and create much more employ; 100 additional heads of stamp with material of the soft nature of that produced in these works means the reduction of at least 150 additional tons of stuff per diem, and this is of noble insignificance for both parties above referred to. It is a good thing for the neighbourhood if capital be brought here and expended for the purpose of working the tin quarry; but it is a matter of extreme gratulation to know that the spending of this money will secure an increase of wealth, using this term, of course, in the sense attached to it by political economists. Here Nature has done her work and deposited the material, which adequate capital and human industry can convert into real wealth. It will, perhaps, be of no particular interest to make formal calculations as to how much these new arrangements will increase both the returns and employ;

it is sufficient to have called attention to the facts of the case, and thus to assure those who spend their money here that they will have their reward. We know nothing of the future intentions of the company except as mentioned, but from present positive arrangements sufficiently known throughout the neighbourhood, it is very evident we may anticipate a very spirited method of working, and that things will be prosecuted to the utmost limit of productive labour: and this is what is really wanted. A thing that is worth doing is worth doing well, and if not worth doing well is not worth doing at all. In conclusion, we would say we wish the present owners every success. They are really doing a good work, and are worthy if much praise both for their energy and their sagacity—i.e., for their sagacity in selecting so good a property and for their energy in prosecuting it when secured. The chief features of this work are—it is both extensive and dividend-paying, certain to last for ages, and can be inspected by anyone that shall happen to visit the locality, as all the workings are open to the day. There is an expression of much pleasure and animation in this locality at the fresh impetus given to operations in the work, as the prosperity of the town will be greatly augmented in consequence.

Observer.

Bedmin, April 20.

PHENIX UNITED MINES.

SIR,—Referring to a letter from a Shareholder in last week's Journal stating that the business of the mine is conducted in a straightforward manner, allow me to ask him why the ledger balances are not given with the reports in the balance-sheets? The doubt that exists as to what is owing to bankers and others is, I believe, the only reason that the shares are so ridiculously low, and the sooner this matter is cleared up the better it will be for all concerned. O. P.

THE UPPER SEVERN MINING DISTRICT.

SIR,—Will you permit me to say a few words respecting a district that but little is said about, but one that I think deserves much more attention? The district I refer to is or commences about five miles west of the market town of Llanidloes. Following the River Severn westwards, and in the direction of its rise in Plynlimon Mountain, the first mine we come to is the Old Gifron Copper Mine, from which there were sold some hundreds of tons of a high percentage copper some 30 years ago. The next mines we come to, and about a mile further up, close on the side of the River Severn, is the Great Gias and the Great Ashford Mines—both copper mines. The lodes at these two mines are very large ones, containing a large body of quartz. A very large quantity of copper was taken out of the Great Gias only a very few years since from between the adit level and surface; and as I have understood averaged about 15 per cent. for fine copper, and I have often heard the opinion expressed that this great quartz lode does most probably contain gold. However that may be, there is abundant evidence in the shape of ocul'ar demonstration that they do contain very rich copper ore and silver-lead ore in no small quantities. Perhaps Capt. Price might be able to throw some light upon the subject if he so thought proper as to whether any gold has been found in the quartz in either of these mines—the Great Ashford and the Great Gias. The next mine I wish to call attention to is the Old Severn or Nant Melin Mine, about a mile and a-half west of the latter mines. Many years ago the late Capt. Reynolds, of Llanidloes, but then of the Dylife Mines, had his attention called to the Severn Mine, and so impressed was he with the prospects of the lodes at the Old Severn that he immediately applied for a grant of the sett, and obtained it. Capt. Reynolds then set about clearing out the old adit, and drove the level further upon the course of the lode, and very soon cut into a splendid bunch of lead ore, and from which a very great quantity was stopped away from above the adit level, and sent to market. An engine-shaft was then sunk from the surface down to the adit, and again down to 10 fathoms below the adit. A level was driven along the course of the lode at the 10, and the result was further discoveries of lead ore. But at this point, from some untoward circumstances amongst the company, the mine stopped, as a great many other rich mines frequently do. Having remained idle for a few years a private company took it up; they put up a new water-wheel and pumps, and sunk the engine-shaft 20 fathoms deeper. This being done, and as they were just beginning to drive along the course of the lode to come into the great course of ore going down on the bottom of the 10 fm. level the principal partner died. That put a stop to the Severn again, and thus one of the best mines, according to the opinion of miners in the district has been idle ever since, save when a few miners have had permission to go and rise ore on tribute occasionally, and they have always done exceedingly well at it along the adit and in the old stops above the adit. It is also evident from the shallow adits above and the burrows out of those that the old workers of former times must have reaped a rich harvest here. There are several other old mines in the neighbourhood that well deserve attention; but, as my letter is getting longer that I intended, I will leave them until another time, when, with your permission, I will again return to the subject. It is said—and it is a popular saying amongst Welsh miners—that Merlin prophesied that there is sufficient wealth in Plynlimon Mountain to pay the National Debt; however, I suppose the National Debt was not quite so large in Merlin's time as it is now. One thing, however, is certain that there is immense wealth in the old mountain and the adjacent hills around it that only awaits the necessary means for its extraction to make itself felt.

Llangurig, Montgomery, April 17.

B. P. HANCOCK.

RHYDDU SLATE DISTRICT, CARNARVONSHIRE.

SIR,—To a geologist slate deposits are a most interesting study, as they are amongst the oldest formations in Great Britain; so old, indeed, as to appear almost coeval with creation, the only older formation being the Laurentian, which is found in the north-west of Scotland and the Hebrides. Having heard that a valuable bed of slate had been lately discovered in the Rhyddu district, on the road from Carnarvon to Beddgelert, in the lower Silurian formation, I took the opportunity, being in the Principality last week, of paying it a visit. I remember that, some years ago, a great stir was made in Carnarvonshire by the discovery by Mr. John Francis (then manager of Lord Penrhyn's quarry) of slate rock on the farm of Cwm Trwscwyl, at the head of the Pennant valley. Mr. Francis having secured the lease sold his interest in it to a company called the Prince of Wales Slate Company for, I believe, 20,000/- Some first-class slates were made by that company, but the great difficulty and drawback was the want of a cheap means of transit, the cartage to the shipping port (Carnarvon) costing about 12s. per ton. Since then, however, the district has been approached by two railways, from Carnarvon by the North Wales Narrow Gauge Railway from Portmadoc by the Gorsedd Junction and Portmadoc Railway, and now enjoys direct railway facilities, as the termini of these lines are both slate shipping ports.

It is strange at the present time with so much money seeking profitable employ that capitalists have not been attracted to the district, as large fortunes will undoubtedly be made by those who are so fortunate as to now secure the properties. Whilst the district, however, has not yet attracted outside capital, some Carnarvon gentlemen, who "are wise in their generation," have commenced quarrying operations on an extensive scale at Glanrafon, near the Snowdon Ranger Inn. Over 100 men are now employed in taking off the top rock in order that it may be worked as an open quarry, similar to Lord Penrhyn's and Mr. Ashton Smith's quarries. Both the colour and the cleavage of the slates now being made are excellent, and the progress of the workings is watched with considerable interest, as it will to a great extent determine the question whether the slate rock of this district is as good in depth as at the outcrop, and, as a consequence, whether it will yield profitable results. Of this, at any rate, in the case of the Glanrafon Quarry, there seems no doubt, as before uncovering the top rock the deep trial level was driven, which proved that the slate rock was equally good at that depth. It is said that the same slate vein will be found in the Llyn Gader, Bwlchyddeilior, and Prince of Wales Quarries on the opposite hill side south-west of Glanrafon Quarry, the two first-named quarries are at present idle, but work is in progress at the Prince of Wales

Quarry in the western side of the vein, and some good slates are now being made, also some slabs from the eastern part of the vein. For a holiday tour no more enjoyable trip can be made than a visit to this district, starting from Carnarvon and passing near the south-western flank of Snowdon, through Beddgelert and Portmadoc, thence over the Festiniog Railway *via* Bettws-y-Coed to Llandudno Junction, which is on the London and North-Western main line. Those fond of walking will find a direct road from the Prince of Wales Quarry down to Portmadoc, over the Gorsedd Junction Railway. Possibly some of your readers may feel disposed to visit the locality next holiday time.—April 19.

VIATOR.

NORTHERN LEAD MINING COMPANY.

SIR,—A letter from a friend just received who resides in the immediate neighbourhood of these mines says that it does not seem to be known what a rich mine the Brandon Walls portion is likely to turn out even for this rich district, although the 37 and 50 fm. levels are only just started. He also says that the Stotsfield portion is to be suspended for the present in order that the Brandon Walls Mine may be opened on quickly, where they have a large extent of virgin ground, that it can be worked cheaply by water-power, a splendid wheel doing all the work, and the only costs to be expended now are the expense of pushing forward the levels. To this I may add that the capital to be paid up is small, and the mine in the hands of a capital man—in fact "the right man in the right place." E. S.

THE KEY NOTE TO WEALTH.

SIR,—Under this heading I observe a communication from your old correspondent, Mr. T. J. Barnard, and appearing in the Journal of the 8th inst.; and to all unprejudiced minds a certain degree of pleasure must be felt that he is still the untiring energetic miner as of old. It is apparent from his own words that Mr. Barnard has deserted English mining in favour of foreign, pronouncing the former as worked out, and useless further to support. I, for one, regret this determination, and for the reason that, now that the irritation caused by the collapse of the companies so closely associated with his name has passed away, it is clearly seen that Mr. Barnard acted with the purest and most honourable motives, believing that in the success of the mines, and that alone, he would obtain his reward, and more particularly because many have petitioned him to re-visit the scene of his former triumphs and defeats, and revive the mining now at a low ebb in the neighbourhood.

On the minds of all readers of Mr. Barnard's new project must dawn the practicability and remunerative nature thereof, and I should say that it would command the best support, although I and many others would prefer that his attention could be diverted to Devon and Cornwall again as a field for operations. DEVONIAN, April 18.

THE PRESENT ASPECT OF MINING.

SIR,—I noticed with satisfaction a letter signed "Crusader" in last week's Journal. I am also of his opinion, that the present system of bringing mining properties to the notice of investors is radically opposed to the successful, and by that I mean profitable, working of mines. The fault chiefly lies in the circuitous manner by which the mines are brought to the notice of the capitalist. There is generally a very good reason for this, as the discoverer, nearly always a poor man, is unable to obtain money to work and develop his property, and, therefore, has to depend on middle men, promoters, and others. I have visited and examined numerous mining districts, and in most cases I found that the mines were good, and would have paid large dividends if they had been purchased at the owners' price; but when several men have to make their per centage before letting the real investors get at them, it is not to be wondered at if the miners cannot bear the heavy strain so put upon them—in other words, their inability to pay the necessary interest on an inflated and exorbitant capitalisation. Add to this an extravagant and too often inefficient manager at the mines, together with an expensive London management, and I think it will be acknowledged that success under the above conditions is impossible. Of course, it is only right and fair that promoters and others, who run a great risk of losing their time and money, should make proportionate profits, but why should there be any middle men and promoters? The right way for private gentlemen and others who wish to invest in mining would be for them to get a competent and reliable man—one who has had experience in mining—send him out to a mining region, and let him deal direct with the prospector or owner, thus obtaining the property on the most advantageous and equitable terms. Sufficient capital should then be subscribed to properly develop and work the property, and the shareholders should appoint two or more of their number to act as a managing committee. In this way a handsome profit would be realised, the working expenses reduced to a minimum, and a comparatively small capital would suffice. My way of thinking is to fit a company to a mine, not a mine to a company, as is usually the case.—*St Clements House, Clements-lane, April 19.* M. T. G.

Greetings of Public Companies.

NOBEL'S EXPLOSIVES COMPANY.

The ordinary general meeting of shareholders was held at the company's offices, Glasgow, on Friday,

Mr. A. S. SCHAW in the chair.

Mr. W. H. THOMSON (the secretary) read the notice convening the meeting, and the report of the directors, an abstract of which was published in last week's Journal.

The CHAIRMAN, in moving the adoption of the report, stated that the year's expenditure on capital account was 90,051. 19s. 4d. They had expended 11,521. at Ardeer on blasting-gelatine works, and 130,411. on the introduction of water by gravitation from the Irvine Waterworks—this was indispensable for the manufacture of blasting-gelatine, and will also be useful in the production of dynamite. After referring to the other items of expenditure, he continued that in lowering the selling price of dynamite in this country they have had a double object in view—to retain their customers, and at the same time to make way for the introduction of blasting-gelatine at a price not exceeding the rate formerly charged for dynamite. Blasting gelatine, the shareholders are aware, is a new explosive, invented by Mr. Nobel. It is 50 per cent. stronger than the best dynamite, and is destined, the directors believe, ultimately to supersede it entirely. Whenever the blasting-gelatine has been tried its great superiority as an industrial explosive has been fully recognised. Meantime the demand for dynamite is daily increasing, and the sales are only limited by their ability to produce it, so that the reduction in the price has rather been one of policy than of necessity. They have resolved to duplicate their present nitro-glycerine works, and they are making a corresponding addition to their works for the production of nitro acid. When these extensions are completed they will enable them materially to add to their manufacture of dynamite and blasting-gelatine. Referring to the accounts appended to the report, he might congratulate the meeting on the improved position of the company, as shown by the balance-sheet. The 120,000/- paid for goodwill has now been replaced by cash from accumulated profits arising from the self-lien of the shareholders. In accepting restricted dividends and the amount is now fructifying in their extending business. The 90,000/- of patent rights extinguished in the same way might very well have continued in their balance-sheet as a valuable asset, for although the dynamite patent has lapsed it has been replaced by others for blasting-gelatine, which are much more valuable, conferring as they do the exclusive right to manufacture and sell this new explosive compound, not only in the United Kingdom but in all the British colonies and dependencies, whereas the exclusive rights conferred by the dynamite patent were limited to the United Kingdom. He concluded by formally moving the reception and adoption of the report and balance-sheet; the declaration of a dividend of 36,000/- (15 per cent. free of income-tax) payable half on May 11 and half on Nov. 9; and that 10,000/- being added to reserve fund the balance of 97,371. 1s. 3d. be carried forward to next account.

Mr. A. H. MCLEAN: I suppose if anybody were to offer you 50,000/- for your blasting gelatine patent you would not sell it for that sum?—The CHAIRMAN: The subject has not been before us. Looking at the profit we have made out of the dynamite patent we have no inducement to sell it upon any such terms.

Mr. MCLEAN: Well it is very modest of the company to take no credit in the balance-sheet for so valuable an asset, but we will get it, I have no doubt, in the form of dividend.

The CHAIRMAN: There is no doubt we thought it better (as we were in a business with money at our credit from the accumulated profits) to write it off, but at the same we must express to you the very strong opinion we have of the value of the future of the gelatine patent.—The report was then unanimously adopted.—On the motion of Mr. FORMAN, Mr. Hugh Beckett was re-elected one of the directors of the company.

On the motion of Mr. WHITE, of Overton, the sum of 200/- was voted to the directors for their services during the past year.—Mr. Wm. ANDREWS, C. S.

was re-elected auditor to the company, and a vote of thanks having been awarded to the Chairman for presiding, the meeting separated.

CORPORATION OF SOUTH AUSTRALIAN COPPER MINES.

The general meeting of shareholders was held at the Cannon-street Hotel on Wednesday.—Mr. R. A. ROUTH in the chair.

Mr. SYDNEY A. COBBETT (the secretary) having read the notice convening the meeting,

The CHAIRMAN said, that before proceeding to make the motion that the report and accounts be received and adopted, he wished to make a few observations about the position of the company at the present time. This was the first annual meeting of a new company, and, therefore, it was necessary to be a little more explanatory than it would be on ordinary occasions. In the first place he would read a short statement of the condition of the mines which they proposed to work. The first of these was the Blinman Mine. This was stated to be the chief opened out mine in the prospectus, and the one to which the attention of the company would be first directed. It did not come into the actual possession of the company until the month of September last, the legal formalities connected with the transfer of the company being very complicated. It had been in the hands of some mortgagees, and consequently they had some trouble in getting possession of it. During the month of September they obtained the lease of the Prince Alfred Mine, together with all the machinery upon it, which they had bought for the sum of £600. All this machinery was moved to the Blinman, a distance of some 100 miles across the country, by the end of the year, and on the 23rd ult. the Colonial Committee telegraphed that the works would be finished by the middle of May. Capt. Paul reported on Feb. 23 that the mine was in a proper state for future working, and as soon as the crushing was commenced 30 or 40 men would be all that would be required below to keep the crusher fully at work, and by the beginning of June the dressing machinery would be fully at work and the mine returning profits. The Blinman Mine was about 30 miles distance from any railway station, half that distance being over a level road in first-rate condition, along which it was proposed to request the Government to construct a light tramway. Mr. Cook, one of the members of the Colonial Committee, having been requested to draw up a Bill dealing with the question for presentation to the Senate House, of which he was a member. From that mine alone, as far as he could judge, as soon as it was put in full working order, he thought they would get 1000 tons a month, or 12,000 tons a year. The Wheal Friendship, which was another mine, was beginning to open out well, and on the 23rd of last month a telegram was received saying that it was in full working order, and that they were producing 2 tons per min., yielding on an average 32 per cent. of copper. The lode was 5 ft. wide and 60 ft. long. The Garrett Mine required no machinery, and it offered very encouraging prospects. With regard to all their various works, the Colonial Committee had written some time ago—“In every case we propose to avoid erecting buildings until the mine has shown a certain character, and we will confine our expenditure to manual labour and to the simple machinery required for sinking on the lodes.” Since that date further despatches had been received with regard to these mines, speaking highly of the prospects before them. They had now two means of communication, one by water from Port Augusta to Port Adelaide, and the other across the country by rail, 240 miles, and consequently they could now send all machinery and other things by rail directly into the vicinity of the mines. The committee stated in their report just received—“We are considering that our prospects are improving every day, and that with a little time and patience our operations are certain of success.” There was one other little item which he would read from that report with regard to the dressing machinery:—“The dressing machinery will be in order, and we trust will be at work by the end of May, and we look for the proceeds of our dressing operations rendering us independent of further assistance in the future. Sinking we have commenced, and hope to get between 15000 and 20000 tons of copper before the fires are out.” Those were the principal matters that he had to call attention to with regard to the mines at the present time. Then, as they would notice, that they were not put in possession of the Blinman mine until September, they would naturally see that the accounts were only made up to the end of the year, as they could not have done more than they had done in that direction. With regard to other matters also, he thought they had done as much as possibly could be done taking into consideration the small amount of capital with which they had had to work. They would find that the total expenditure in the accounts, which were now in the hands of the shareholders, was 71957, spent upon opening out the mines, and they had also secured a large amount of valuable machinery which, if they had had to send out from England, would have cost the company more than the whole of the capital that had been expended. They had obtained moreover an amount of ore on the surface, and although it was a very low class ore, and would therefore require to be reduced from 10,000 tons to 2000 to make it valuable, yet when the reduction works were finished by the end of May, and this ore was reduced, the calculations sent by their agents on the other side went to show that there would be a net profit of about 10,000, on that low class ore. He had gone into these calculations, and he felt justified in saying that the amount of profit estimated there was not an overestimate of the probable results. With regard to the drawbacks to successful mining, they were many, more especially in a country like Australia. They must bear in mind that the climate there was not like this climate, where they could work all day, and if they chose to have double sets they could work all night. The climate in Australia this past year had been excessively warm, the thermometer registering 180° of heat. They might suppose that it was possible to get the same amount of work out of men when the thermometer stood at that figure, as they could in this country, but it was not so. At this moment they were expecting the rain in Australia, where it rained once a year; here it rained nearly every day. Yet rain to the company out there was a matter of vital importance. It was one of the things which they were anxious to obtain, for the purpose of their reduction works, and it was the want of that only that would restrict them in the amount of their outputs. The Government of Australia had taken the matter into consideration, and he believed that they would have tanks similar to those in some parts of India placed on the station, and if so he was in hopes that they would conquer the difficulties they experienced with regard to water. Another difficulty in mining in Australia was with regard to labour. When they came to consider that the whole population of South Australia was not much more than that of Birmingham or Manchester they might naturally suppose that there was considerable difficulty in collecting large numbers of men, and to work even one of their large mines they would require from 800 to 1000 men. But even with the limited labour that they could command he thought they would be enabled to show the shareholders by the end of next year that the statements in the prospectus, which were in all cases more or less coloured, would be virtually carried out. With regard to the accounts, there was very little to be said. During the past year they had really been prospecting. They did not get into work until between September and October, and it was impossible for them to have done more than they had done. There had been a small amount of ore sold between 4000 and 5000 tons worth, and it had been of an excellent quality, and from the general appearance of the whole works they thought they ought to be satisfied with what had been done. Finding that they were not getting on as fast as the shareholders could wish, and as the directors of the company on this side could desire, they sent out one of their body to Australia who was instructed to examine the property, and give the full reasons why they had not attained that success which might have been expected from the statements of the prospectus. That gentleman had examined the mines, and had reported to the directors that as far as he could see everything was quite equal to his expectations, considering the limited capital, and that it would simply take time to develop the different sets which they had, and the more the capital they employed the more mines they could open out. Even with the limited capital they had that gentleman still thought there would be no necessity of any very large amount of capital, and with the mines they had if they were put into full working order they would do very well. If the whole of the shares had been taken up they could no doubt have proceeded on a larger scale, but as it was they had gone very carefully to work. If they had bought very expensive machinery and other things they would have found themselves in a financial difficulty, whereas on the other hand they had gone on without calling up any capital. They should now proceed to call up the remaining capital in order that the mine might be put in full working order, and not starved, and thus worked in a satisfactory manner. (Applause.)

Mr. COLEMAN wished to know how many shares were taken in Australia, whether there was a commission, and how much paid for brokerage on shares, what was the amount of the directors' fees both here and in the colony, and, finally, what would be the cost of reducing the 10,000 tons of ore, and how long it would take to do it.

The CHAIRMAN, in reply, said that, although he had not the list before him, he thought about 50 per cent. of the shares were held in Australia. The amount of brokerage was 6 l. share on the amount placed. The directors' fees amounted to £257., as settled by the Articles of Association, or, bearing in mind that there were seven directors, about £50. each. As to the important question about reducing the 10,000 tons of ore, it was impossible for him to tell until the accounts of the sales came in. But the estimate, as far as could be made out, was that there would be a net profit on it of about 10,000. As to the time it would take, of course, would depend very much on the labour they got, but he thought it would be done within twelve months, probably within nine months.

Mr. WILDE understood that a certain number of shares were held back to be issued in Australia.

The CHAIRMAN: There was an intention of issuing shares in Australia, but it was not found that they were taken up rapidly, and the matter, therefore, was never pressed.

Mr. WILDE wished to know whether the colonial committee was necessary. He thought it would be rather unwise to encourage for some time to come any other company to take their mines. Let them devote their money for the benefit of two or three of the principal ones and keep to them. Could it be said when they were likely to receive a profit, would it be this year, or when?

The CHAIRMAN thought, looking at the number of meetings that the local committee had attended—57 in all—they had done their duty most thoroughly, and he might also state to the meeting that if it had not been for the committee the company could not have been able to purchase the machinery at the Alfred Mine, for example; and he considered the local committee, who were largely interested in the mines, were exceedingly valuable to the company. The board quite endorsed what Mr. WILDE said with regard to too many mines. They were exceedingly anxious not to go too far ahead in this matter. There was one thing which he omitted in his speech which would make a material difference to the company, and that was the price of copper. Now, it was up to what he could lend the paying point. If the price of copper were to go up from 70/- to 80/- or 85/-, there would be a great demand out in the colony that people would be only too glad to open out the mines. It was only capitalists like themselves who could go and take the ore out without machinery. One thing had certainly been proved, and it was that the farm-work was exceedingly rich in copper, and all that they had to do as merchants was to go and get it at a profitable price.

A SHAREHOLDER wished to know whether the directors had received any information with regard to the gold?

The CHAIRMAN said that on the south of Adelaide they had found a considerable quantity of gold. With regard to the finds in the north the quartz was sand-colored, and no gold was found in it at all. He did not lay very much stress upon that point. He would much rather find a good vein of copper. (Hear,

hear.) The only point at which gold was discovered was at Yudanamutana, and it was thought desirable by their agents to take out a license to claim the reef. He had no doubt that gold could be found nearly everywhere. He thought it might be found in Wales or Cornwall, but the difficulty was to find it in paying quantities, and he did not think in North Australia it would be found in paying quantities.

Mr. HILL said that with the encouraging features of the property, and the knowledge the board possessed of the low grade ore, which would soon be in process of cleaning, and from which good results might be expected, he did not think it would be imprudent of them to lay before the shareholders their views as to the desirability of increasing their holding.

The CHAIRMAN thought everything was looking very promising, because the Moonta, which had paid nearly a million in dividends, although it had been out of dividends for four years, was this year, he was happy to say, resuming its former condition. They would always offer the shareholders the shares *pro rata* if they increased their holding; but the less the number of shares the larger would be their dividends.

A SHAREHOLDER thought that in those cases where the mine was at a distance, as in this case, there should be a local committee having a substantial interest in the mines. He thought there should be a recommendation from the shareholders to the directors not to commit themselves to too much by opening out more mines. Let another year pass, by which time there might be a dividend paid, and they would soon get the remaining shares taken up.

Mr. STEVENS concurred in this view, and was glad to hear that there was a prospect of a tramway being established between the railway and Blinman. If this was a fact he thought they should consider themselves perfectly safe for the future of the mine; but until there was a road macadamised, or a railway, he did not see how any mine could pay in the long run.

The motion for adopting the report and accounts was then put and carried unanimously.

Messrs. Quilter, Ball, and Co. were unanimously re-elected auditors at a remuneration of twenty guineas.

Mr. WILDE proposed a vote of thanks to the Chairman, the directors, and the Australian committee, which Mr. ROUTH briefly responded to, and the meeting separated.

WYNAAD PERSEVERANCE ESTATE AND GOLD MINING COMPANY.

A meeting of shareholders was held at New Exchange Buildings, George Yard, Lombard-street, on Thursday.

Mr. ARTHUR HALL (the Chairman of the company) presiding.

The CHAIRMAN said: Gentlemen, you are aware that you have been asked to attend here to-day not to receive a statement from the directors of your company, but to meet Mr. Cooper, the mining engineer, who has lately come from India for a short period, and has to return soon, and to hear from him what he can tell you regarding the operations which we have carried on in the mine, the present state of the mine, and what in his opinion are the prospects of our mine. To commence with I will introduce Mr. Cooper, our mining engineer, to you, gentlemen. (Cheers.) He has brought with him some specimens from one of the quartz reefs of the mine. He has also brought with him some very interesting photographs, which can be seen by any one, illustrating the mine and its immediate neighbourhood. I would particularly ask you to bear in mind that what we have got to tell you now is regarding a mine on which operations were commenced last June, so that really there has not been one full year yet for Mr. Cooper to develop it. What he has done has met with the entire approval of the directors; indeed, we cannot praise Mr. Cooper too much for the exertions and for the skill he has displayed in carrying on the work. (Cheers.) It is not for me to say many words, and I will not detain you long, which I think you would like to have read to you. After that you can ask any questions categorically of Mr. Cooper, and he will answer them, and give any further explanations that he can or you may wish to hear. There are two points which I think you will find that Mr. Cooper's practical experience has established. One is that true fissure veins of auriferous quartz exist in the Wynnaad, which has been questioned for some time, and the other is that the natives who worked in these mines in bygone years have not carried off all the gold, or anything like the gold that there is in it. (Cheers.) Both the true fissure veins and the gold are there, and the gold seems to be unlimited. In the Perseverance Mine not so much has been done, as I hope in the course of a few months or another year we shall be able to report to you. We have not the full strength of machinery there. What we have been doing has been entirely done by a machine made by a Mr. Cook, and that has not been sufficiently powerful, as you will see by Mr. Cooper's report, and he proposes to change that, and the directors quite agree with him, and as soon as possible a ten stamp mill is to be sent out. We have an engine to work it, and it will immediately on erection commence to work. But Mr. Cooper will explain matters much better to you than I can, or that it is my place to do. There is one thing very much in favour of our mine and of the Wynnaad altogether—that is that the Governor of Ma-lasain in his late tour through the district was so much struck with what was brought to his notice that he has written a very elaborate minute on the subject, particularly alluding to the gold mining industry, and has directed his officials to give every possible assistance in every way, and has expressed himself ready to do all he can to promote this extremely interesting industry. (Cheers.) I think that is in our favour. I will now, therefore, ask you to allow Mr. Thompson to read the report which Mr. Cooper has addressed to us. It is dated very recently. Then you can ask Mr. Cooper or the directors any questions, and I am sure they will be readily answered. (Cheers.)

The SECRETARY then read the following report:—

London, April 18: I beg to submit to you my half-yearly report on your mines. You will recollect that actual mining operations were only commenced after the arrival of the Cornish captain and miners in June last; since then very extensive explorations have been made, and a great deal of dead work done. No. 1 shaft has been enlarged and timbered to a depth of 80 ft. At the bottom of this shaft we found a large lode. As the portion of the lode on the upper wall had been worked away by the ancients, we sunk down to the footwall and drove out north, but the lode was poor; so I came up and drove out in the centre of the lode, where we had it rich. Unfortunately we very soon struck ancient workings, which we drove through to the solid ground; here we found the lode split up into branches of quartz, frequently showing visible gold, some specimens of which I have brought you. We have driven in south on these branches a distance of 112 ft. To-day's telegram from the mines says that they have struck a body of quartz in this drift which is very satisfactory, the branches evidently having formed into a solid lode. This drift is going into the mountain and in our land. North from this shaft the lode dips away with the contour of the hill, and has been extensively worked by the ancients. We have tried it in several places by means of shallow trial shafts, but with the exception of one place which we have called the Trench, we have met with old workings. It appears the ancients must have missed the lode near this trench, as we have driven a considerable distance on it. The quartz and casing of good quality—Adolphus Reef: We have sunk an incline shaft on this lode to a depth of 98 ft. This lode varied in width from 4 ft. to 1 ft. The quality of the quartz generally was good. We shall now drive levels on the course of the lode and open out stoping ground. We have sunk a vertical shaft, No. 2, close to this to a depth of 54 ft.; this will act as a winding and air shaft. This shaft was sunk and closely timbered entirely by natives. The labour cost of sinking and timbering this shaft to a depth of 54 ft. was only 6/-.

The main west tunnel has been driven and timbered a distance of 272 ft.; this will drain the ground under No. 1 shaft, and be the main outlet for that lode to the mill, which will save the expense of hoisting. It will also prove if there are any other lodes existing in this hill. An air shaft has been sunk by natives a depth of 70 ft., which has communicated to the tunnel 260 ft. from the mouth. The ventilation is now good, and much better progress is being made. The outcrop on the eastern part of the estate at first was very promising, and turned out some very rich quartz with visible gold. In going down on it, however, it wedged out to nothing, and proved only to be a gash vein, and not true fissure. We sunk a trial shaft near the outcrop and drove a cross-cut under it, but discovered nothing. We then drove a tunnel into the mountain and came across a lode about 2 ft. wide. The quartz was poor, and will not pay for stamping, but latest advices from the mines state the quartz in the eastern tunnel to be improving, so there is no telling but what we may soon have a good lode here. All the mining on this eastern side has been done by natives and Eurasians, therefore very inexpensive. In my first report I told you it would take time to develop the lodes on this estate, as we should have a good deal of dead work to do, but I hope now we shall open out some stoping ground in No. 1 shaft and on the Adolphus lode. We have had some trial crushing with a Cook's wet pulveriser, but owing to the very inferior working of the machine the results were not good, most of the free gold being carried away with the water and slimes. I should propose that we abandon this pulveriser and replace it by a battery of 10-head gravitation stamps. The engine and boiler are quite capable of driving such a battery. This will be as much as we shall require for the present, until the lodes are more developed, and stoping ground opened out. It is no use our having a lot of machinery before we want it, especially as improvements are continually being made in gravitation stamps.

We are now letting contracts to the natives to drive the ground, and they are all working very much harder. It only averages 4s. per foot. Comfortable houses have been built for the staff, and since my last report the building of the different workshops has been completed. As you already know you have one of the finest forest in the Wynnaad, containing a quantity of timber suitable for building, mining, or any other purposes, and fuel can be delivered at the mill site at a moderate cost. As soon as we get the steam sawmill to work we shall increase our sales, and there is no doubt this will be a good source of revenue. In conclusion, with regard to the question of pyrites, which was asked at the meeting of the South-East Wynnaad last Thursday, I wish to explain that, with such reefs as the Elizabeth, where they are, according to Mr. Claude's assay, only traces of arsenic, a certain amount of the free gold can be obtained, but even in this case a great source of additional profit will be derived from the sale of the residue to a reduction company. With such lodes, however, as at Bolling-broke and others, in which I have every reason to know the sulphides, or pyrites, are refractory, the benefit of a reduction works will be more strongly felt. I am pleased, therefore, to hear that such a reduction company has been registered, and will shortly be brought before the public.—JOHN J. COOPER, Mining Engineer and Manager.

The CHAIRMAN: If Mr. Cooper can supplement that report or add any further explanations, I am sure he will do with pleasure. It is a good feature that we worked so economically, and for this also Mr. Cooper deserves great credit. (Cheers.)

Mr. J. JENKIN COOPER (who on rising was cordially greeted) said: Perhaps, gentlemen, you would like to hear something about this lode which we have in what we call the No. 1 shaft. (Hear, hear.) There are a number of shafts on the property—I should think about fifteen of them—sunk to a depth of 70 and 80 ft. by the ancients. Some of them have got covered over, and trees have grown on the old dumps, which must be more than one hundred years old. I enlarged one of these shafts, which we call the No. 1 shaft, to a depth of 80 ft. When we commenced the water entered; but the main west tunnel has drained it. At the bottom of the shaft we found that the ancients had taken away all the hanging part of the

lode, so I thought it best to cut through it, which we did. The plans I have here are not very clear. The latest plans should have arrived by this mail, but the postmaster there had not enough stamps and would not take coin to send them on. (Laughter.) We sunk to the footwall of the lode, but it was very poor and broken up, and I thought we would come back to the place where we stated in the telegram that the lode was rich in the No. 1 shaft. We struck out there into very good stuff, and we got into solid quartz, and it is evident that the branches have formed and made a lode. This lode we found to be the same one that is following down the contour of the hill. It goes into the hill flat under the contour, and I have every reason to believe that we shall very soon find it dipping the other way into the hill, and forming what we call a true fissure vein. Some people have said that on the Perseverance and Alpha sides we have no true fissure veins as we have in the South-East Wynnaad property; but I think it will be found that the lode will dip into the hill and be a true fissure vein. I will explain why I think so. It goes with the contour of the hill and then gets flat, and it seems that the mountain has tumbled over, and now it is taking a natural dip on the eastern side. As you see, we had what appeared to be an outcrop, and we drove under it and found nothing. That cropping was, in my opinion, a break off from some lode. We drove under it and found the lode, which was poor at first, but I am glad to say it is improving. In fact, some of the stuff is so good that part of it has been stolen by the Corumbas, or natives, for specimens, so I have ordered it to be locked up—they have to do that in all gold and silver mining countries. We have only been nine months at work, and all mining men will understand that a new property like this takes time. We have had some disappointments; but I have more faith in the mine now than at any previous time. (Cheers.)

Mr. SHARPE: I think, Mr. Cooper, in your answer to the shareholders, it would be rather important to explain the difference of cost in mining in India and, say, in Australia. It is well known that 5 dwt. in Australia will pay very well indeed, and there the wages are 8s. to 10s. a day, so that the sinking of shafts and the other working expenses are necessarily very high. You have mentioned the cost of sinking, would you mention what it would have been in Australia or anywhere else?—Mr. COOPER: I have never been in Australia, but I have had a good deal of experience in California and Colorado. The wages there are about 82½ a day, which is exactly the same as the high figure you mention. We should, at that rate, have had to pay 8/- per fathom for that shaft, which would represent an outlay of 82½ for the shaft, which actually cost us 8/- 12s.—native labour. (Cheers.) It is a beautiful piece of work, and our agent, Mr. Stanes, when he saw it could not believe it had been done by native labour. It was done by the natives under the direction of an English captain. They are paid about 5½d. a day, against 10s.

In reply to a question, Mr. COOPER said the new stamps would be gravitation stamps with the latest improvements, including some which he had just made himself. Mr. Cooper also pointed out, in reply to Mr. Sangster, that the level at the bottom of the No. 1 shaft was going into entirely new ground, while at two or three other points they were going into new ground; but it would certainly be unwise to abandon the old workings while they paid. (Hear, hear.) Their main operations were, however, in new ground. He added that the iron-wood growing on the estate was valuable for the stamp frames. The greatest depth the natives had gone to was from 70 to 80 ft.

Mr. OLIVER PEGLER, at the invitation of the Chairman, fully confirmed all that Mr. Cooper had said with respect to the value of the company's property. Some years ago he was staying upon the estate, and he explored the Perseverance property thoroughly, and in no part of his journey, not only in India but in other parts of the world, had he ever met with so many indications of gold as existed on the property. (Cheers.) At that time it was very difficult to examine estates, and the greater part of the ground was covered with trees. The gold mining industry in India had in comparatively recent times been carried on for many years, and had received considerable attention from the East India Company, who sent a very intelligent engineer, Lieutenant Nicholson, to examine and report upon the property. Lieutenant Nicholson, who, however, was not a miner, made his camp on the borders of the Perseverance estate, and gave a very favourable report on what he saw there, and he referred to the existence of 27 shafts, which struck him as being something very wonderful. He (Mr. Pegler) had also been very much struck with the number of shafts. In his examination he saw enough to convince him of the

that we have driven rather a hard bargain, that we have got it too cheap, and the shareholders whom they represent would take up shares, with the hope of recouping themselves for the very low price at which they had sold.

Sir CHARLES CLIFFORD said it was originally a small company in Sydney who owned the property, and who owned a great many mining properties all combined together.

A SHAREHOLDER: May I ask if I am right in the impression that the work at the mine is now in progress, and that the proceeds of such work will accrue to the existing company?—The CHAIRMAN: Certainly, but there are only a small number of people employed merely to keep the claims going, but whatever they produce belongs to us. There was a crushing not long ago which I imagine belongs to us.—The SECRETARY: 106 ounces.

The CHAIRMAN: 400L worth. That is since the prospectus. We have no definite information, but we gather that that is a crushing of gold that belongs to us.

A SHAREHOLDER: Am I right in my idea that at the present moment the mining property had not actually been transferred to this company?—The CHAIRMAN: No, it has not. We should have heard by telegraph of it had been.

Mr. HENRY MAUDSLAY: The shareholders present will understand this, that this is a statutory meeting, in order to comply with the Act of Parliament, by which we feel our position now to be, so far as we are concerned, established here in London. We are waiting for information from the colony, which when obtained will certify to us that the mine is our own, and we shall then be in position to carry out mining operations I hope to a successful result.

The CHAIRMAN: In the meantime, all the gold that is produced from Dec. 31 belongs to us.

A SHAREHOLDER thought that as there were so few men at work at the mine they could not expect any large dividend for the present.

The CHAIRMAN: No, Sir.

The SHAREHOLDER: You have felt it would be undesirable to establish a larger working power than is necessary just to keep the thing going until all is completed?—The CHAIRMAN: And then by improved machinery and a large number of hands employed, there ought to be very much larger returns.

Mr. HENRY MAUDSLAY proposed a vote of thanks and confidence in the directors, and he said the shareholders felt that the directors had done everything that they possibly could in the time. He thought his co-shareholders would agree with him that it was desirable at this moment to pass a vote of confidence in their Chairman and directors. Under the circumstances he thought that everything had been done that could be done, and he hoped that in a very short time they would have some satisfactory intelligence.

Capt. COTTELL thought they might add a rider, and include the secretary, who was a very good man, and also the officers of the company.

The motion, with the addition of the rider, was seconded, and carried unanimously.

The CHAIRMAN: I am sure we are all very grateful, and will continue to do our best.—The proceedings then terminated.

SOUTH CONDURROW MINING COMPANY.

A meeting of adventurers was held at the offices of the company, Austin Friars, on Wednesday (Mr. H. J. MARSHALL in the chair), for the purpose of passing the accounts and transacting the general business of the company.

Mr. EDWIN F. COLMER (the secretary) read the notice calling the meeting.

The CHAIRMAN said he would call attention to a slight error in the form of the notice, which stated that the meeting was held, amongst other things, for the appointment of a secretary. As a matter of fact, the appointment of Mr. Colmer to the post of secretary took place some weeks ago, and the committee merely intended to report the fact to the shareholders.

The minutes of the last meeting were then read and confirmed.

The financial statement for the 16 weeks showed a profit on the four months working of 1634L 1s. 10d., and that the balance now in favour of the mine was 3780L 15s. 7d.

Capt. RICH then read his report as follows:—

April 17.—Since your last general meeting in the early part of the year we have been urging on the different points of operation in the mine vigorously. The lode in the rise above the 30, at the engine-shaft, is worth 20f. per fathom. We have begun to drive on the tin lode at the 30 f.m. level, west of the cross-course, where it has a strong and kindly appearance, and we have reason to expect that it will improve as it is opened on. The stope in the bottom of the 40, east of engine-shaft, is worth 12f. per fathom. The back of the 50, east of King's is worth 12f. per fathom. The 50 end east is worth 8f. per fathom. The 60 end east is worth 12f. per fathom. This end is suspended for the time, and the men put to sink a winze in the bottom of the level for ventilation and to open ground for stowing; the lode in this winze is worth 12f. per fathom. A stope in the bottom of the 60 east is worth 10f. per fathom. The 60 end, west of Plantation shaft, is worth 7f. per fathom. We have just started to drive the 60 east of this shaft. The lode in the bottom of the 60 west is worth 10f. per fathom. The 70 east of King's, on the south part of the lode, yields stones of tin. A rise in the back of this level, on the north part of the lode, is worth 8f. per fathom. The rise in the back of the 70 west, on Marshall's lode, is up 12 fathoms. There are three stopes in the back of the 70, west of Plantation shaft on the tin lode, worth 8f., 9f., and 12f. per fathom respectively. The 80 end, east of Plantation is worth 8f. per fathom. A stope in the back of this level is worth 10f. per fathom. The lode in the back of the 80, east of King's, is worth 12f. per fathom. We have intersected the lode in the rise above the 93 east of King's; it is letting out water freely, and we hope it will soon drain the bottom of the 80 east. The lode in this rise carries a little tin, intermixed with native copper. Marshall's shaft is in full course of sinking, and is now about 60 fathoms below surface. The sinking was retarded for a month or more in the beginning of the year on account of the water, but it is now quite dry, and we hope to communicate with the rise in the back of the 70 during the coming summer. When this work is accomplished, we shall have over 90 fathoms of high ground on lode standing before us westward to operate on, and independent of the flat lode. The lode in the bottom of Marshall's is worth 10f. per fathom, and the stopes in the 40 east is worth 8f. per fathom. We have a winze sunk in the 40 east some 10 fathoms in a strong and moderately productive lode. The 50 end east will soon be communicated with this winze, and give good ventilation and open ground for stowing. We have begun to drive the 30 west of Marshall's, where the lode is improving and is yielding good stones of tin. We have recently had to make extensive repairs to the stamps and to the engine connected therewith, and have had to replace a worn out boiler. We have put in the new boiler, which is giving satisfaction. The whole of these extras have been charged and paid with the current cost of the mine.—W. RICH. W. WILLIAMS.

Mr. MACKAY said all the ends seemed more or less productive.—Capt. RICH: I have seen them better, but we are opening up a new mine to the west.

Mr. MACKAY: It is a good thing to see that you are paying as you go along, making a new mine, and also paying a dividend. (Hear, hear.)

The CHAIRMAN said—Since we last met our sales of tin have been at about the rate which we were then making—something like between 30 to 32 tons of tin per month. The price kept up pretty well to within last month, during which time it has dropped rather considerably, and during the last week in a manner which can only be described as perfectly horrible. The profit, as you have heard, which has been made during the 16 weeks amounted to 1634L 1s. 10d. That profit has been made in the face of a considerable expenditure upon what some mines, which are worked upon a different system, and a very fashionable system, called the Limited Liability System, would charge to capital account. In fact, a friend of mine sent me a record of the meeting of a mine in which he was interested, the other day, where a call was made to meet, expenditure upon new ground, and at the same time a dividend was declared, and everything was very pleasant indeed. If we could only charge, or if it was our custom to charge, to capital account, our expenditure upon what are called exploratory levels, and dead work we might have sent you a better account, but we do not consider it advisable so to do. That is not the custom, as you know, upon which Cost-book mines are worked, and, therefore, we must be satisfied with a smaller dividend and the absence of a call. I think Capt. Rich will bear me out (from what I understand from him this morning) in saying that he expects his expenses will now be rather less than they have been. The machinery is now bought, and paid for working a part of the new mine we are opening, and I think he anticipates before the next meeting he will have the shaft called 'Marshall's' put through, which will enable us to work the new ground freely and without stint. At present he is afraid to work too much there for fear of having more water, and being drowned out. If we can work there more freely and the ground holds, as we hope it will, we hope to be able to return some tin—at any rate, we should have the chance of doing so. Since the last meeting we have had the misfortune to lose an old and valued servant our secretary, Mr. Hickey, whom you all remember very well, and as it was also necessary to appoint a successor, we thought it would meet with your approval if we appointed Mr. Colmer, who has served in the office for fourteen years, and therefore had every opportunity of being thoroughly conversant with the business of the mine, and therefore we have appointed Mr. Colmer secretary, and I have no doubt he will give us every satisfaction, and I hope it will meet with your approval. (Hear, hear.) The amount of profit will enable us to declare a dividend of 5s. per share and 154L to the floating balance, and we beg to recommend such a dividend. To put myself in order I will first move that the accounts which you have heard read, and also the report, be received and adopted.—Mr. COULDRIDGE seconded the motion, which was put and carried.

On the motion of the CHAIRMAN, seconded by Mr. CLARKE, a dividend of 5s. per share was declared.

Mr. SLACK said, he should like some explanation as to why it was necessary to accumulate a reserve fund, and whether it was necessary to go on increasing it. He also hoped the utmost economy would be practised.

The CHAIRMAN: The question of reserve fund directly bears upon the resolution now before the meeting as to dividend. Will you propose an amendment?—Mr. SLACK: No; I would not do that.

Mr. LEACH said that having been a large shareholder for some years, and being the oldest shareholder in the room, he might mention that some time ago it was thought a floating balance should be retained, as otherwise the balance would have been passed into the pockets of the shareholders long ago; but the committee thought it better to pay the merchants' bills and take a discount. During the past four months the discount on merchants' bills amounted together to 54L, which came into the shareholders' pockets; and if they multiplied that by 32L, times it would make just 120L discount in the course of the year. (Hear,

The CHAIRMAN said the question of the reserve fund had before been very fully discussed at these meetings, but he would again gladly give the reasons why the committee thought it advisable to keep a good reserve fund. From the very nature of the business there were always considerable sums of money owing to the company; at the present moment there was about 3200L owing to it (that is to say, in bills maturing), and if there was no balance the directors would have to borrow from the bankers to pay dividends, in addition to having to discount

their bills. With respect to the figures which the reserve fund should reach, in rough figures when the committee settled to begin accumulating that balance they settled upon the figure of 2000L, but it was found that 2000L was practically insufficient, and the committee would like to make it between 2500L and 3000L. The committee never set before themselves the intention of making it and keeping it at any fixed figure, but they intended to draw money as convenient, either (say) for the purpose of equalising dividends or meeting any unusual expenditure that might arise. As a fact, that balance had been drawn upon two or three times, and would be again when convenient. After the payment of the dividend they would carry forward a balance of 2275L, which was made up of the balance brought in, with 154L added thereto during the present 16 weeks.

A SHAREHOLDER said he thought the report was very satisfactory.

Mr. LEACH said the Chairman was a very large shareholder, and the other members of the committee had also large interests, so the shareholders might rest satisfied that everything possible would be done to protect their interests.

Capt. RICH said he looked upon the reserve fund from a miner's point of view. He had contended that the true principle of a Cost-book mine was to divide the profits when they were made, and divide losses as they were made. But he must say he thought the Chairman had got the best of it, because the reserve fund had been very handy, for they had had to pay for stamps and for other extra work, and therefore he thought the Chairman was right in the view he had taken regarding the reserve fund. In the new concern they could not shut their eyes to the fact that there would be considerable expenses incurred, and therefore, it was good policy to increase the reserve fund. They commenced the new portion of the mine in January of last year, and in 18 months the shaft would be down 100 fms. If they could put it down by next meeting, and he hoped they would accomplish that object. There was the double skip-road, which was complete. If they got it through by next meeting they would not do badly, with pit-work fixed. In addition to the new mine there was a great mine to be kept on as well, and they had to sell the tin to keep on the stamps. The south lode was a new lode altogether, and independent of the flat lode, but would probably drop into the flat lode in depth. It was now worth about 10L or 12L per fathom.

The CHAIRMAN said he had just received from a firm in Cornwall a telegram

regarding the price of tin, who said that the present state of the market was very critical, and they could give no price, but hoped that a reaction would set in in the London market and prevent a further drop, but if there was not that reaction a further drop was inevitable.

On the motion of Mr. MACKAY, seconded by Mr. SHEARWOOD, the committee of management were re-elected, and a vote of thanks having been passed to the Chairman and directors the meeting broke up.

MELLANEAR COPPER MINE COMPANY.

The ordinary general meeting of shareholders was held at the company's offices, Queen-street Place, on Thursday,

Mr. R. HENTY in the chair.

Mr. W. G. WILLIAMS (the secretary) read the notice convening the meeting, and the report of the directors and statement of accounts were submitted:—

The accounts show that the profit for the year ended Dec. 31 amounted to 4542L 12s. 8d. This is about 1300L less than it was for the preceding year, a result which may be said to be entirely due to the lower prices realised for the ores, as the total quantity was within 32 tons of the returns for 1880. The subjoined figures give a comparison of the two years:—During 1880 the sales were 6262 tons 10 cwt. 2 qrs., realising 23,039L 11s. 5d., or an average of 3L 7s. 6d. per ton. During 1881 the sales were 6794 tons 9 cwt. realising 21,639L 5s., or an average of 3L 3s. 8d. per ton; showing decrease 32L 2s. 2d., and 1400L 6s. 5d., or 3s. 10d. in the average price per ton. In addition to the above a sum of 526L 16s. 9d. was realised for tin-stuff last year.

After paying dividends quarterly last year as usual, the balance at the credit of profit and loss account on December 31 was 2006L 6s. 8d. Out of this amount a dividend of 2s. per share, or 1000L, was paid Feb. 7, and 454L has been added to the reserve fund, leaving a balance of 552L 6s. 8d. carried forward. The reserve fund now amounts to 2078L. The amount disbursed on plant account, and charged against capital last year, was 438L 6s. 9d., and included outlay on new dressing floors, and the cost of boiler and fittings. Capt. Gilbert's usual annual report gives full details in regard to the mines and works. Whilst the reserves of ore have been slightly reduced, they are still estimated at the very satisfactory quantity of about 16,000 tons.

The CHAIRMAN said: Gentlemen, I have very few remarks to make in addition to what you have already seen in the printed reports. The directors have just declared a dividend of 2s. for the quarter, which is similar to what we have had for the last three quarters, and considering the state of the copper market, and the depressed condition of trade, we think this will be considered satisfactory by those who are interested in this company. We have paid an average of 22 per cent. upon the last year, which is a good deal better than a good many of our neighbours engaged in similar undertakings have accomplished. In addition to the dividends which have been declared during the past six years we have put by 2078L to the reserve fund, and we propose to put a further 1000L by from present profits. We have also written off from the outlay on the mine 1358L; so, considering all things, I think the shareholders cannot be otherwise than satisfied with the result, and I think they will also be satisfied that the directors have used a reasonable amount of prudence in not dividing all the amount of money which has come into our hands. (Hear, hear.) The returns have been 6794 tons, which is within a trifle of what was produced in former years, and the reserves remain nearly the same, and are only reduced in some very slight degree. The price of copper has been so ruinously low that it has affected our seriously. For the same amount of raisings in the present year, if we had only had the price of the previous year, it would have made a difference of 1300L to our profits. We have nothing to complain of in the amount of produce, but the general state of the trade, and the depression in the metal market particularly is alone responsible for your not having a better dividend. I do not know that there is anything with regard to the price which looks more cheerful at the present moment, and I am afraid there are no grounds for flattering your hopes in that respect. Including the dividend which is now about to be paid, we have returned 17,000L upon the original 20,000L, and I think that must be considered satisfactory to those who are interested. The amount of copper which has been raised has been 29,300 tons, and the amount received in actual cash has been 98,000L, which has been returned from the time that we have been engaged in it.

Mr. MATTHEW WILLIAMS asked whether the 2000L on deposit was apart from the reserve fund?—The CHAIRMAN said it was. It was a portion of the original capital which was not re-joined, and had been kept on deposit.

Mr. WILLIAMS said he thought it would look better if it were stated in the report that this was a quarterly dividend.

The CHAIRMAN said he saw no objection to stating in future reports that the dividend was for the quarter. He went on to say that Mr. Richard Taylor, who was at present in Cornwall, had written to say that he had just visited the mine, and that everything was going on perfectly satisfactorily.

Mr. KINGSTON said he noticed that small quantities of tin were being met with at times, and it was going on even to quite recently, but it was always a precarious return.

Mr. JOHN TAYLOR said the subject was drawn attention to in Captain Gilbert's report, who said:—It is very encouraging to have such a large and promising tide in the bottom of the mine, and when the levels are a little further advanced we shall again cut into the south part of the lode to ascertain its value for tin. This was a point of great interest, and there was a hope of getting into a lode containing a larger proportion of tin. During the past 12 months the tin sold realised upwards of 500L. This was very encouraging, and without leading them to think they were going to have a second Dolcoath it was a matter of some importance.

The report and accounts were then adopted.

The retiring directors, Mr. John Taylor (who has been elected on the board in the place of his late father, Mr. Richard Taylor) and Mr. John Wild, were then re-elected, on the motion of the CHAIRMAN, seconded by Mr. KINGSTON.

Mr. JOHN WILD, in acknowledging his re-election, said it was very gratifying to be connected with a mine which had been so successful ever since it had come under the management of the Messrs. Taylor. Before that it was anything but a success, but since it had been in Messrs. Taylor's office not only had they now got the original lode which was lost, but they had also a great chance of getting one north and south, and finding the ore extending in breadth.

On the motion of Mr. OAKES, the auditor, Mr. Charles Hurlbatt, was re-appointed, and the meeting broke up after passing a vote of thanks to the Chairman.

OLD SHEPHERDS MINING COMPANY.

STARTING THE FIRST ENGINE.

The 80-in. engine on this mine was very successfully started on Saturday last. The engine was manufactured at Messrs. West and Son's Foundry, St. Blazey, and the engineers are Messrs. Loam and Son. There has been a great deal of work effected on this mine since a fair start was made. In the south part of the mine the adit has been cleared 800 to 1000 fms. in length, and in the latter part of the distance the adit was quite choked. The shaft on which the engine-house is erected has been cleared to the adit level, and pit-work fixed to the depth of nearly 30 fms. A shaft has been sunk in the western ground and an engine erected on it, two lodes have been cut in the 16 f.m. level, and lead is being dressed for market. This ground gives high promise of great richness when further depth is attained. The north lode is producing good work for lead and in paying quantities; and the south lode is being driven, and it is expected that equal riches will be found here shortly. Green's patent dressing machinery is already fixed, and when the mine is drained it will be at full work immediately; and with this powerful engine, which it is calculated will raise 900 gallons of water per minute, it will not take long to get the water out.

Mr. F. TAMBLYN, one of the directors, officially started the engine, and in addressing the miners and others outside the engine-house he said they were after that day to start the engine on this grand Old Shepherds Mine after a lapse of 50 years or more since the last stroke of an engine was given there. Not through any want of ore—for they were all aware that there were five times more ore there than had been taken away, although profits amounting to nearly a million had been made—but through a dispute as to the owner of the minerals. He was about to call on the engineers to start the 80-in. engine, and he hoped and believed Old Shepherds would prove as productive in future as it had done in the past. (Cheers.)

The CHAIRMAN next gave "The health of the purse" (Mr. Henry Browne). (Applause.) Mr. Browne was not a purser in the ordinary acceptance of the term, but he worked for the company every day, and was most assiduous in attending to his duties. (Applause.) He bought the materials very cheaply, and was most popular with the directors as well as with other people. (Applause.)

Mr. HENRY BROWNE, the purser, addressed the miners. He remarked that they had just witnessed the starting of one of the finest engines in the district. It had gone to work well, and he thought every man employed there had done his best to bring that to

Mr. H. BROWNE, in responding, said he believed there was no one more deeply interested in Old Shepherds by family ties than his brother and himself. His grandfather (Capt. Grose) was manager of that mine for many years, and he (the speaker) had a piece of silver vein ore taken from there more than 1 ft. wide, which gave an assay of over 166 ozs. to the ton of stuff. If that held good at the bottom of the mine that would be good enough, and they would not want any lead there. They had also several magnificent stones of on hand down to them. Further than that, his uncle (the Rev. James Grose) told him that he had weighed out thousands of tons of ore at Old Shepherds, and that within two months of operations being suspended the mine paid 1000/- dividend. (Applause.) If the old company could make profits at the price of lead in the former working, what might they not reasonably expect to do with ore at the present price—about double what it was then? (Applause.) Again, at the time when the mine was suspended about 70 men were working on tribute at a standard price of 4/- per ton, which included the returning charges, dressing included, and the highest tribute which had been given to any were 8/- in the 17. The average of the 70 men was 5s, some odd pence in the 17. Then, as had been said, the modern appliances would bring another 50 per cent. on the cost, so that if they did not get a rise in the price of lead, which he would be glad to see, he maintained that they were in a position to pay magnificent dividends, and that even if lead dropped they were still on the right side, and could still pay good dividends. There had been more than 70 applications made for the sett since the lawsuit was settled, and this fact alone would show the unanimous opinion of the value of the district. They would drain the mine in a very short space of time, and as they went down from level to level they would be raising ore, and as the men cut into the different levels ore would be broken that would far exceed their most sanguine expectations. He believed that in Old Shepherds they had a great and glorious property. He had bought 300 shares in the open market, and he believed it stood as high as any property in the kingdom. When the annual meeting came he did not fear it, as they would be able to show that they had done everything with the utmost economy. (Applause.) He proposed the toast of "The Shareholders," and Messrs. LUKES and A. LUKE, St. Austell, responded.

Mr. LOAM proposed "The health of the Directors," and said when they remembered the late great depression, and the way these gentlemen had come forward, and brought such an amount of capital into the county, it was due to them, as Cornishmen, to recognise the services of such gentlemen. He bore testimony to the interest the directors took in the company, and the great attention they paid to all its affairs.

Mr. FORMAN responded, and said the directors would endeavour to maintain the confidence and trust the shareholders had placed in them. They were not directors in name only, but tried to do their work. Their meetings were weekly, and he could undertake to say that scarcely a day passed without some of them looking into the office to see what could be done, and they sought the best advice from all quarters, and from the best able to give it. The proceedings of that day would be gratifying intelligence to the large body of shareholders throughout the kingdom, who had been looking forward to the starting of the engine with interest. It appeared to him that mining was being resuscitated in Cornwall in a way that was likely greatly to benefit the county. Delays had taken place, but the directors had urged things on, and they had seen two large engines started that week, and he thought they started with every possible advantage. He (Mr. Forman) concluded by repeating the statement made by Mr. Tamlyn at Treseavean meeting, that the company would not lose a 5/- note if the Standard Bank stopped payment, and the bank was worth 50s. in 17, so that could not affect the great results which they one and all anticipated.

Mr. LOAM proposed "The health of Mr. Neil," who had been instrumental in introducing a large amount of capital into the county.

Mr. NEIL, in reply, said if they had been treated fairly they would have brought 800,000/- or 900,000/- more money into the county than they had. They had to return this amount to shareholders because Cornishmen gave such characters of properties in their own country. At the same time, if Cornishmen would only be true to Cornwall, anything he could do towards introducing capital into the county he should be willing to do. (Applause.)

Capt. DODGE responded to the toast "Success to East Wheal Rose," and spoke of the success which they had met with at Innes's lode. Shareholders who had been underground were highly pleased, particularly at the staff being broken above adit and upon a lode unwrought in the mine. He had tried several times to get Old Shepherds set but failed. He had always heard the highest character of it, and he believed the present company had got a first-class prize. (Applause.)

Mr. J. BROWNE, in responding for the toast of his health, said he had heard the late Mr. West and his father speak about Old Shepherds many and many a time. He had not a shadow of doubt that when the mine was drained they would realise more than their anticipations. The richest parts were still left to be taken away, especially the silver portion. He had used every effort to promote the prosperity of the property by using economy in every respect. He had seen the books of the old company, and he saw that there was a second parcel of lead usually which realised about 4/-, so that the average price of both samples would be about 6/-.

He believed still that the mineral wealth of Cornwall was only scratched over, and not at all developed. He believed that the future of Cornwall was such as it never had been in the past; but this depended very much on Cornwall itself. If the people of Cornwall would persist in crying down their property how would they get people outside to come in with capital? He trusted they would take some lesson from the past. Let the Cost-book and the Limited Liability principles work together. If they started a mine in the North of Scotland they would not do it on the Cost-book System but on the Limited. (Applause.)

"The Press," responded to by Mr. BURNS, of the West Briton, concluded the toasts.

TRESEAVEAN MINING COMPANY.

STARTING THE ENGINE.

The 90-in. engine put up at this mine, from the foundry of Messrs. Harvey and Co., Hayle, was on the 12th inst. successfully started, amid the cheers of a crowd of miners and others. The event was looked upon as a most important one for the neighbourhood, as it is firmly believed that the mine will turn out to be as rich in tin as it has been for copper. It is looked upon as a sister mine to Dolcoath, only at the critical time in its history the adventurers failed to prosecute it until a tin mine was made of it. It has all the geological and other features which are characteristic of Dolcoath, and the present company have been pushing on the work very rapidly, with all due economy consistent with efficiency. Some fine tin-stuff is being brought up from Caddy's lode above adit, and, as the adit is 60 fms. from surface, it is believed that large quantities of tin will be found untouched above adit, as tin was little sought for when the mine was working, it being so rich for copper. Mr. George Forman, one of the directors, started the engine, but there was no christening ceremony.

Mr. FORMAN, in addressing the crowd outside the engine-house, said he was there only as the representative of the Chairman of the board of directors—Sir George Innes—who was unable to come down into the county. Surely after all that they had done, the ability and talents they were bringing to bear, combined with the capital that their shareholders provided, they had every chance of proving what Cornwall could do in the way of resuscitating and reopening a mine with such a reputation as that mine had. He was largely interested himself as a shareholder, and he could say that the directors would spare no exertion to make the mine a success. And when they were benefiting themselves they would be benefiting those who lived in the neighbourhood, and they should be doing what every right-minded man wished to do, and that was to make money in a legitimate way, and they would be doing so in a most ancient and honourable industry. (Cheers.)

Loud cheers were given for the success of the mine, and on the call of Mr. Henry Browne, the purser, three cheers were given for Mr. Matthew Loam, the engineer.

Mr. LOAM, who had evidently been hard at work starting so large an engine, thanked the men for their kindness. He stated that his father had started an engine in the same house, and he (Mr. Loam) had been connected with that important district ever since his youth, and he hoped to see it again resuscitated. That mine at one time earned a profit of 60,000/- a-year, and he hoped the time was not far distant when it would do the same again. But the success of the mine would largely depend upon the men themselves who worked in it. They should work with a soul, and not merely mechanical, and act as if the success of the mine depended upon their individual efforts.

After some further cheering the men dispersed, and an adjournment was made to the account-house by the directors, shareholders, and some friends present. Among these were Messrs. G. Forman and F. Tamlyn (directors), J. Nell (London), S. West (Harvey and Co.), M. Loam and Son, Henry Browne (the purser), Capt. James (the manager), Mackenzie (London), Capt. Joseph Prisk (Helston), Bedford, W. N. Rose, Tamlyn (Redruth), and a number of others.

A dinner was provided, and Mr. Forman presided over the meeting. After dinner and the usual loyal toasts, the CHAIRMAN expressed his regret at the unexpired and regretted absence of the Chairman of the board, Sir George Innes.

He thought it was seldom that in the county of Cornwall they met upon such an occasion as that. It was seldom that an engine of the dimensions of that which they had seen that day was started in the county, and it was seldom that a mine with such an historical record as that mine had been started. It was seldom also that they could embark upon an undertaking with such promises, with almost more than promises, of bringing that undertaking to a successful issue. He thought it might be said that from their Chairman down to the lowest man employed on the mine they had displayed a great deal of energy and desire to go on as rapidly as possible to develop this property. These were not days in which any time should be lost, whether in mining or anything else, the board had done their best, assisted by the very best professional talent they could get. Their engineer, he was sure, had done his very utmost to start the engine in as short a time as possible. Their purser and every one connected with them had assisted to the best of their ability, and on behalf of his colleagues, and as a representative of the shareholders, he heartily thanked them all, and all for what they had done. He thought the great work fairly inaugurated that day would, in the near future, reward them for the confidence and money they had placed in it. He concluded by proposing "Success to Treseavean Mine," and coupled with the toast the name of Mr. Loam.

Mr. LOAM, in responding, remarked that the Chairman had very properly said that was a special and exceptional occasion, exceptional in all its aspects. They were dealing that day with an historical mine, a mine that he had been associated with from early days. The last engine he fixed there was under his other, and he looked back with great pleasure and pride to the efforts he then made, and then to the success which attended that engine and the development of that great mine, and the success which the adventurers subsequently had.

It was there he was associated with the erection of the first man-engine put up in Cornwall, and his father was the inventor of it, and he had received acknowledgment from the adventurers, from the committee of the Polytechnic Society, and from the lord of the mine, the predecessor of the present Captain Rogers. That was classical ground to him, as most of his early days were spent in erecting machinery there, which had reflected lustre on the memory of his father and his family. His father's name was his most precious inheritance, and he had endeavoured all through life to show himself worthy of that name,

and he believed he had not laboured in vain. (Applause.) When he was called upon by the directors to come there as their engineer he felt it an honour, and was proud to accept the offer, and he had done his best to give them an engine worthy of the work which it would have to do. He knew from the first that they had a great work to do there, but he knew they could accomplish it. They would work honestly, zealously, and lovingly to carry out the work entrusted to them there. He was proud to say they had made a start. The engine was one of the best construction, manufactured by their friends at Hayle. The first step of the great task they had to carry out for them was in a fair way of being accomplished. He knew they had a mine 300 fms. deep, and it was not a mine to be played with. It required judgment, thought, and care, and all these they had endeavoured to study, and he thought that when he, as their engineer, was satisfied, the directors and shareholders, or anybody else, would have no just cause to complain. With regard to the mine, it was very rich for copper up to the time of its stopping, and then little or no attention was paid to tin. He remembered the late Capt. Wm. Richards speaking about the mine within two or three years of his death. He said that when the committee held their meeting, and called their adventurers together to surrender the mine, there were found just after that large deposits of tin in the caps of the lode, and that Mr. Michael Williams and himself had determined to keep the mine open for tin, but the death of Mr. Michael Williams put a stop to that, and the consequence was the mine was stopped until it was taken up by the present company. He did not profess to speak with any mining authority, but knowing what had taken place under similar conditions to what they had there, he believed they would have a future there equal to the past. Dolcoath was equally as rich for copper as that mine, and it had produced profits for tin equal to that for copper. Both mines were in the same geological position, and they had the same features. Dolcoath lode changed into tin, and had a southerly underlie in the granite hill, and they had the same in Treseavean—granite and southerly underlie—and he believed they had an equally rich future for tin in that district as they had in the Dolcoath district. (Applause.) They had a very deep mine, and it behaved them to remember that the vital forces of the men they employed there were of the utmost importance to them. Men could do but a certain amount of work, and if they wanted work out of men they must give them facilities to come up from underground. By putting the man-engine down there formerly the tutwork bargains were reduced from 15/- to 12/- per fm. The last thing to stop was the man-engine. They must not, therefore, lose sight of the fact that they must have a man-engine there. The shaft was there which they had utilised for the purpose, and all that money had been spent for their benefit, and he hoped they would authorise their engineers to lay out a good and efficient man-engine for the development of that mine. (Hear, hear.) He congratulated the country around on having one of the grandest mineral districts in the world, and there had been more profit made out of it than any other mining area in the world. He spoke very highly of Mr. Bawden, who had charge of the practical work of fitting the engine together, and said he was an old hand of his father's.

Mr. HENRY BROWNE proposed "The health of Capt. James, the manager," and said they had some excellent stuff coming from Caddy's lode, and Capt. James could verify the statement that that was a great and grand lode. Capt. JAMES said they had not been able to go down to the 310 to give any report, but they had a very good lode, as Mr. Browne had just said, at Wheal Caddy, and they had three stops at work and the average of the lode was worth about 12/- per fathom. There were other parts that they had to search up as yet, and especially at the deepadit. They had dialled above Caddy's lode to Wheal Boys lode, but they had not had time to complete the work, so that they could hardly tell what length they would have to drive to cut Caddy's lode from Wheal Boys shaft. However, he thought they had more than a prospect at Wheal Boys, and, as he had said on former occasions, Wheal Boys was a mine of itself. The engine that had been started that day he looked upon as a grand engine in a great and grand mine. (Hear, hear.) From the reports that he had from scores of people he might say that they had one of the best mines in Cornwall. (Hear, hear.) He had been told that the 150, where they had met with the rich course of ore, for 200 fms. long and 150 fms. deep there was received from 1819 to 1839 324,000/- in dividends, and the lords' dues in that time were 34,747/- They expected to find tin ore before they got to that level. At the 155 there was a good lode of ore that was discovered before the mine stopped, and there was a gentleman present who could verify a great deal of what he had said, especially about the old Treseavean lode going west. It divided, he thought, at the 99, and the main part of the lode was never worked upon to the west of that place. One mining gentleman had reported that Treseavean had got down to the "primitive rock," just as it was reported that Dolcoath had before it became a tin mine. He only wished they could get down to this primitive rock. However, they were told that there were several places where they had good courses of tin discovered in their mine. At the 200, an old man told him that had worked there for a long time, there was a lode over 6 ft. 7 in., that would average 1 cwt. to the ton of stuff for the coarse work, so that he thought there was every probability of their having a good mine in Treseavean when the water was forked, and even before. If they were to work the mine successfully they must have a man-engine. They could do a third work with a man-engine than they could do without. (Applause.)

Capt. PRISK said he commenced his career in Treseavean Mine when he was 13 or 14 years of age, and from that time to this he had never missed a month without going underground somewhere. He had witnessed the starting of the engine that was put up by Mr. Loam's father. They had now got a powerful engine, well fitted for the requirements of the mine. There was a very large lode at Caddy's, and he had seen the stuff that they were now drawing from there, and he should say it was a very productive lode. (Applause.) It had every indication of being a strong lode, and one that was likely to continue in great depth. They had got their engine and their pitwork, and they had an excellent shaft—a shaft which he knew better than he knew that room, because he had climbed it with and without a light from top to bottom. He believed it would be found clear, and in good condition—(applause)—and that very little repair would be required. He believed also that the levels would be found in good condition. But, after all this, they would want some tin, and by-and-by, when they got down to these places, they would, as Capt. James had said, be sure to find it. The copper lode, of which he had handled thousands and thousands of tons, had been taken away, but the tin caps were there still, and they would find tin pitches level after level. (Hear, hear.) He had got all the levels in his mind's eye. There was the 150, where the copper failed and the ends became very hard. They were tin lodes, and nothing else, and they were there standing. He could take them to the 200 and find a pitch there which was worked by a near neighbour of his, who was dead now. He could put them to similar stopes in the 250 where the stuff was, according to assay, 1 cwt. per ton, and that was standing there to this day, and it was as wide as the table. His opinion was that they would find the tin principally coming from the old pump shaft, towards Williams's. That granite hill was likely to produce tin as they drained the mine. There was a communication effected in the 176, and they could take up the top levels from the old sunken-shaft, below the 176, and bring them on towards Williams's, and they would have a hill of the ground to deal with at once. Then he could take them down to the 230, to the 300, and to the 310, and these levels were scarcely open to the old east shaft. They were not as far as the man-engine shaft, and they would find tin in paying quantities, for the sides of the levels had never been cut through. In the 310, where he had worked, at the old shaft they would find a course of tin there which would produce over 2 cwt. of per ton of stuff, and they would find a course of copper there also. He believed they would have a real, sound, good property. They had commenced fairly well, and everything appeared to be laid out for permanence and prosperity, and he also believed that the next great event would be that they should meet to celebrate the drainage of the mine and the going down to the smelting-house. (Applause.)

Mr. FORMAN responded for "The health of the directors," and said the board might fairly take praise for the selection they had made in their officers. The directors had fully appreciated the difficulties and the responsibilities they had before them when they started that gigantic undertaking. They were a Limited Liability company coming into a Cost-book district, but he hoped they would be able to show that the Limited Liability System could live side by side with the Cost-book System. The directors he might say were no dummies. There was very little done in Cornwall in reference to the mine but what came before them. As chancellors of the exchequer, they kept the purse strings very tight, and there was no contract entered into without their being acquainted with it. Two or three of them attended to the business of the mine every day, so that they were no kid-glove directors. He had been in Cornwall for some days, and he had been coming down a good deal during the last twelve months, and he had found a good deal of prejudice existing against undertakings that were not started in Cornwall, but he had not heard a word said against Treseavean. He had heard it said over and over again that if they only get the water out they had the finest mine in the county. He heard that the previous night from men who knew mines in the district well. Another thing that he wished to make public was this—it had been stated that the Standard Banking Company was rather shaky, and in fact that they had stopped payment. In the first place that was altogether erroneous. They had not done so. In the second place, if they did stop payment they would be able to give 50s. in 17, to all creditors. If they stopped payment and had no money at all, the director had the foresight and the information long enough to entirely keep that matter right, and they should not lose a 5/- note if the Bank stopped on the morrow of that day. (Applause.) He would have very great pleasure in conveying to his colleagues when he got back to London the very hearty way in which their health had been drunk. The directors had been disappointed in not getting things as fast as they could have wished, as they were anxious to get returns as quickly as possible, but now that they had got the 90-in. engine started, and as Capt. Prisk said they had got almost a mountain of tin before them, he hoped they should soon get down and take away that mountain of tin and convert it into gold, and he felt sure it would produce more gold than the gold mines in India. (Applause.)

Mr. N. WEST, in responding for "The Merchants," said he looked upon that as a red-letter day for Cornwall, seeing that a body of gentlemen had chosen to take such an interest. In Cornwall as to collect together a large body of shareholders and a large sum of money to invest in Cornish mining, and he was proud that they had fixed upon one of the brightest and most likely spots that Cornwall could produce. He thought he might say that, "given a good property, given an adequate amount of money, given good machinery, and given good officers," the chances of future success were reduced to a minimum. (Applause.) With regard to their engine he could say, as an engineer and as a founder, there never was a better machine turned out of Harvey and Co.'s manufacture. There had been many foolish attempts made to work good pieces of ground in Cornwall, and there were many silent monuments of Cornish foolishness and of money expended recklessly by injudicious management. Still, it was so much done, so much money spent for others, so much depth attained, and depth was necessary. Treseavean had added a lustre to the glory of Cornwall, and his wish was that they would achieve that which they had for their object. (Applause.)

Mr. LOAM, in responding, remarked that the Chairman had very properly said that was a special and exceptional occasion, exceptional in all its aspects. They were dealing that day with an historical mine, a mine that he had been associated with from early days. The last engine he fixed there was under his other, and he looked back with great pleasure and pride to the efforts he then made, and then to the success which attended that engine and the development of that great mine, and the success which the adventurers subsequently had. It was there he was associated with the erection of the first man-engine put up in Cornwall, and his father was the inventor of it, and he had received acknowledgment from the adventurers, from the committee of the Polytechnic Society, and from the lord of the mine, the predecessor of the present Captain Rogers. That was classical ground to him, as most of his early days were spent in erecting machinery there, which had reflected lustre on the memory of his father and his family. His father's name was his most precious inheritance, and he had endeavoured all through life to show himself worthy of that name,

and he could speak of his own observation that they had an excellent board of directors, and could confirm every word which Mr. Tamlyn had said as to their being at their post every day, taking the greatest interest in the company, and doing their best to develop the property. The directors had the valuable advice of Mr. James Browne and the active assistance of Mr. Henry Browne in Cornwall, and he thought they were extremely fortunate indeed as a body of shareholders.

Mr. JAMES BROWNE, in responding to the toast of his health, said he had felt deeply interested in the welfare of the mine. He had been perfectly satisfied that it was one of the grandest mines in the county of Cornwall, and only wanted development. He had not the slightest doubt that every one would be rewarded for the capital they had expended. He was satisfied that Cornwall was completely in its infancy, and was simply scratched over, and the riches still left, and only required capital, with more economy and efficiency, to bring it out. They would all see that many more mines would yet go on. (Applause.)

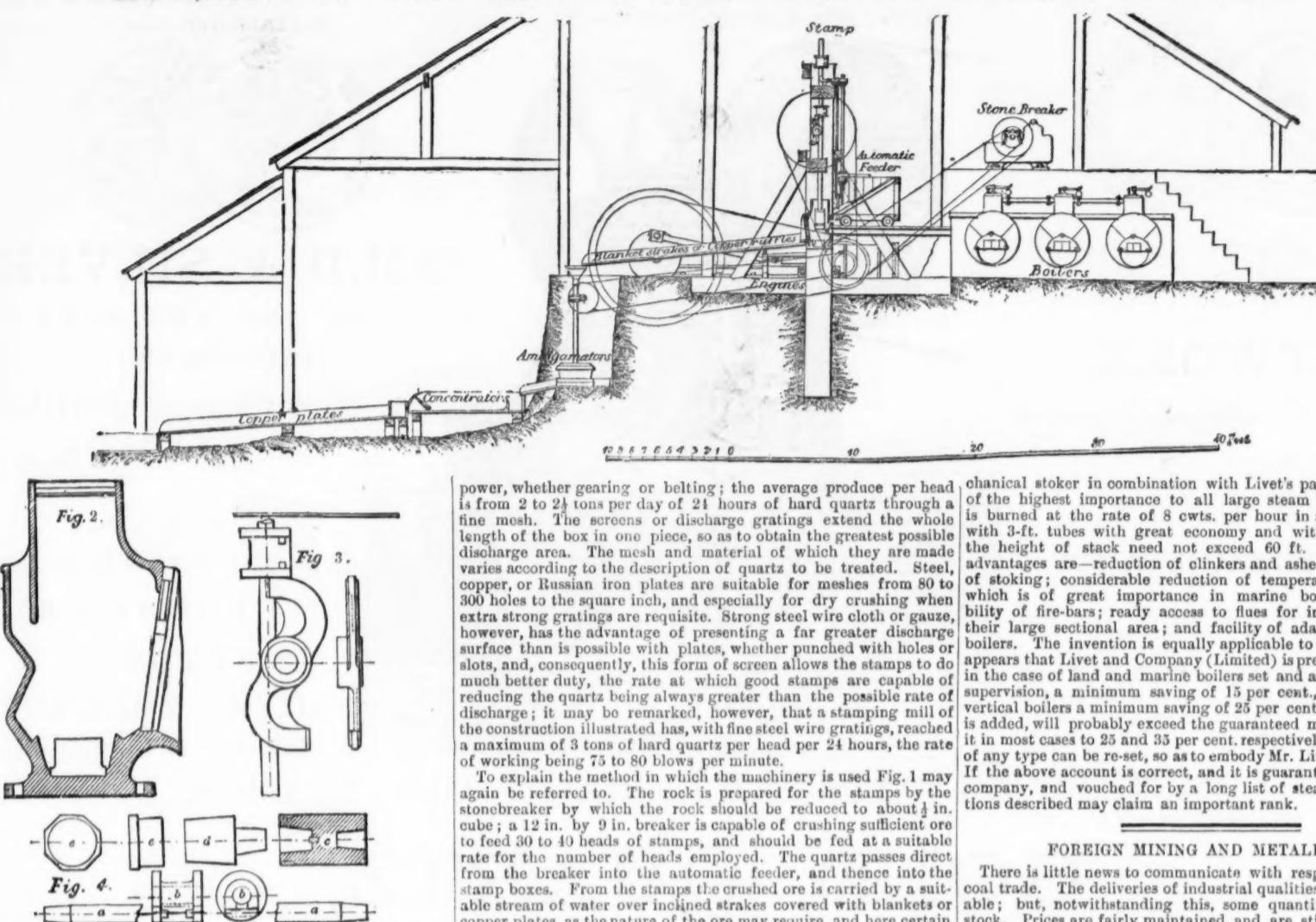
Mr. HENRY BROWNE, in a few remarks, observed that he would never consent to have anything to do in the bringing out of any property without being satisfied on the fullest investigation that it was one which was *bona fide* and a fair speculation. With regard to Treseavean, he had gone to Redruth several times and examined a great many persons as to the history of the mine and its prospects if resuscitated. He proposed "The health of the lords," who had acted in a very noble manner, and Captain Rogers had himself taken 150 shares, as he was satisfied that the property was a genuine one, and that the directors would do that which was right.

"The health of Mr. Neil," Mr. Bawden, and other toasts followed. It was mentioned that both the late Mr. John Michael Williams and his father had been heard to say that there was a fortune in Treseavean for anyone who had the courage to work her, and that each of them would be willing to speculate 10,000/- in her, because they considered her another Dolcoath.

THARSIS COPPER AND SULPHUR COMPANY.

The report of the directors, prepared for presentation at the forthcoming meeting, states that the net profits for the ten months, ended December, including balance from March 1, 1881, were 316,888/- 10s. 7d., out of which the directors recommend a dividend of 234,165/- (25 per cent. free of income tax, for the ten months, or 30 per cent. per annum), payable on May 10: leaving 32,723/- 10s. 7d. to carry forward to credit of next account. With regard to the mineral resources of the company's properties it is observable that in the directors' report for 1873 the shareholders were informed that "the total quantity of mineral, calculated to the depth to which the north lode of the Tharsis Mine had at that time been drained, was then more than 1

EXTRACTION OF GOLD FROM ITS ORES—COMPLETE REDUCING MACHINERY.



EXTRACTION OF GOLD FROM ITS ORES—COMPLETE REDUCING MACHINERY.

It being now an acknowledged fact that the success or failure of gold mining enterprise is in a great measure dependent upon the amount of judgment and mechanical skill brought to bear upon it, records of the arrangements followed in actual practice are of paramount importance to shareholders as well as to mining engineers. The above diagrams represent some gold-reducing machinery constructed by Messrs. Thomas B. Jordan and Son, of Gracechurch-street, Fig. 1 showing the general arrangement of a gold-reducing mill, while the remaining illustrations represent details to which we shall refer in due course. When the stamping mill is of the most approved type (in the present case it was made with 10 stamp-heads) mounted in wooden framing such as is generally adopted in California, it is specially suitable for localities where timber is abundant for first erection and subsequent repairs. Indeed, by many engineers timber framing is preferred to iron on account of its greater elasticity and immunity from possible fracture. This style of mounting also admits of ready repair by an ordinary carpenter. Similar stamps may, however, be mounted with metal framing, the side struts being of cast-iron and the main supports of wrought-iron, firmly bolted together as shown; this makes an exceedingly rigid and strong frame, while the weight is reduced to a minimum. These stamps are illustrated as being worked by a turbine, the motion being transmitted by gearing, each set of five heads being an independent machine.

A section of the mortar-box used for wet crushing is shown in Fig. 2; this box being of solid cast-iron of a homogeneous mixture. It weighs from 30 cwt. to 40 cwt., according to the weight of the lifts intended to work in it, and it is constructed to receive five heads. On each side of the anvils or dies are seatings extending the whole length of the mortar to receive amalgamated copper plates for the purpose of arresting as much gold as possible at this stage. It will be seen from the section that the sides of this mortar are so formed, and of sufficient height, to prevent any loss or inconvenience from splashing; for some of the harder kinds of quartz the inner sides of these mortar boxes are lined with steel plates at the points of wear; these plates are renewable and protect the casting. Under conditions of difficult transit the makers construct their mortars in sections, the lower portion or bed being in two parts of cast-iron firmly bolted together, side play being prevented by a bar of wrought-iron fitted and securely fastened into a groove underneath and at right angles to the joint, the bolts being turned to fit the bolt holes; the upper part of this sectional mortar box is constructed of steel-plates and wrought-iron top, securely fastened at the corners by strong angle-iron. It should be remarked, however, that solid boxes are for obvious reasons far preferable when circumstances will admit of their use, greater simplicity and durability being strong recommendations when the average conditions of gold mining are considered.

The stem of the stamps (see *a a*, Fig. 4) are 3½ in. in diameter of solid wrought-iron turned from end to end and polished to gauge, both ends being coned to receive the stamp-head (*c*), which is of solid cast-iron, turned, bored, and fitted to gauge, a wrought-iron ring being shrunk on its lower end to resist the wedging action of the shoe (*d*). This shoe, together with the die or anvil (*c c*), is made either of cast crucible steel, or of a special mixture of hard cast-iron; the latter is found to wear as long as steel, and is slightly cheaper for renewals. The tappets, *b b*, Fig. 4, are of hard cast-iron, securely fastened to the stems by steel gibes and cotters; this mode of fixing admits of easy adjustment, while the tappet is not liable to shift its position on the stem. This form of tappet has entirely taken the place of the old-fashioned screw adjustment, which has a great tendency to get out of order, and when worn involves extensive repairs or entire renewal.

The cams (see Fig. 3) are of hard cast-iron or steel, the bosses being strengthened by shrinking on a wrought-iron ring; each cam is bored to fit the cam shaft, which is 5 in. in diameter, turned and polished to gauge, and of the best scrap-iron, supported by three pedestals (for every set of 10 heads), these pedestals being fitted with massive brass bottom steps. The cam shaft is driven from a line shaft by one pulley for each set of five or ten heads, this pulley being 6½ ft. in diameter and 12 in. face. All details are turned, bored, and fitted to gauge, and are interchangeable, no delay is, therefore, occasioned when putting in renewals. The weight of lift and amount of fall of the stamp-heads varies with the work required to be done, those illustrated having a fall of 10 in. to 12 in., each 1 ft. weighing 7 cwt. Each head of stamp takes from 1½ to 1¾ horsepower to drive it, depending on the means used for transmitting the

power, whether gearing or belting; the average produce per head is from 2 to 2½ tons per day of 21 hours of hard quartz through a fine mesh. The screens or discharge gratings extend the whole length of the box in one piece, so as to obtain the greatest possible discharge area. The mesh and material of which they are made varies according to the description of quartz to be treated. Steel, copper, or Russian iron plates are suitable for meshes from 80 to 300 holes to the square inch, and especially for dry crushing when extra strong gratings are requisite. Strong steel wire cloth or gauze, however, has the advantage of presenting a far greater discharge surface than is possible with plates, whether punched with holes or slots, and, consequently, this form of screen allows the stamps to do much better duty, the rate at which good stamps are capable of reducing the quartz being always greater than the possible rate of discharge; it may be remarked, however, that a stamping mill of the construction illustrated has, with fine steel wire gratings, reached a maximum of 3 tons of hard quartz per head per 24 hours, the rate of working being 75 to 80 blows per minute.

To explain the method in which the machinery is used Fig. 1 may again be referred to. The rock is prepared for the stamps by the stonebreaker by which the rock should be reduced to about ½ in. cube; a 12 in. by 9 in. breaker is capable of crushing sufficient ore to feed 30 to 40 heads of stamps, and should be fed at a suitable rate for the number of heads employed. The quartz passes direct from the breaker into the automatic feeder, and thence into the stamp boxes. From the stamps the crushed ore is carried by a suitable stream of water over inclined strakes covered with blankets or copper plates, as the nature of the ore may require, and here certain proportions of the rich particles are arrested, the auriferous sand passing on into the hydraulic amalgamators, where it meets with a further supply of water, made to whirl round the inside of the hopper, and thus avoid all possibility of lodgment; it then passes down the stand-pipe, into the amalgamating pan, which is formed of two parts, the outer one being a pan of cast-iron containing about 3 cwt. of mercury, and the inner pan or muller, which is fixed to the stand-pipe, revolving slowly in the mercury. The bottom of this inner pan or muller is immersed in the mercury about an inch below its surface; the sand and water pass down the stand-pipe under pressure of the column, and are forced between the bottom surface of the muller and the mercury, the particles of the sand are by the revolving motion kept in rolling contact with the mercury, so that no particle of the whole mass which is thus spread out in a thin layer can avoid being thoroughly incorporated with the amalgamating agent during its passage under the radius of the muller, and from the particles being thus separated and brought into individual contact, the great affinity between gold and mercury at once detains the gold, while the non-metallic portions of the sand pass on with the water, and are discharged over the top of the pan.

If the material under treatment is a simple combination of gold quartz the whole process of separation will be completed at this point, but when associated with iron, sulphur, arsenic, lead, or other minerals—which act on the mercury and tend to interfere with its affinity for gold—portions of mercury will pass into a finely divided or sickened condition, floating away on the surface of the water and generally carrying gold; this rich combination is partly arrested by copper rifles, over which it flows to the concentrators (Fig. 1), where it is effectually separated from the sand which flows with it from the amalgamators, the sand passing to ordinary buddles or catch-pits. The engines employed by Messrs. Jordan and Son for driving the machinery described above are of the horizontal non-condensing type, and of substantial and simple construction. They are fitted with expansion slides adjustable by hand or automatically controlled by the governor. To meet difficulties of transport these engines are, when required, constructed in sections not weighing more than from 6 cwt. to 8 cwt.; but where the carriage presents no special difficulties, solid details are recommended in preference. Messrs. Jordan and Son have already supplied many mills, which are at present working satisfactorily.

ECONOMY OF FUEL—IMPROVED BOILER SETTING.—At the Naval Exhibition now open at the Agricultural Hall, Livet and Company (Limited), of Short-street, Finsbury, show models of boiler and furnace improvements, invented and patented by Mr. FOUNTAIN LIVET, which are well worthy of careful examination. The increased economy is secured by vastly improved combustion and the utilisation of all the heat obtained. In the case of marine boilers this result is secured by deep duplex fire-bars fitted in a specially proportioned furnace, combined with Wéry's patent funnel, which without mechanism and by the action of air alone imparts a rotatory motion to the gases, and combines them more thoroughly in the furnace. All existing marine boilers can be thus fitted, but in new ones Mr. Livet also makes the tubes diminishing in sectional area as they rise, so that the steam escapes more freely and priming is obviated. In land boilers the same effect is produced by special fire-bars and furnace as before, with greatly expanded flues, which prolong the circulation of heat around the boiler. It must be borne in mind that apart from the merits of the individual parts of the system—which alone is very great—they must be scientifically proportioned by the patentee to suit the circumstances of the case. No two cases are alike, and Mr. Livet's wide experience in boilers and knowledge of the properties of heat are to a great extent the secret of the success of the system. Wéry's funnel is specially applicable to vertical boilers in combination with Mr. Livet's fire-bars; all results hitherto obtained show a saving of more than one-third. The advantages claimed for the arrangements generally are—a strong and steady draught of hot air, ensuring more complete combustion and great saving in fuel; greatly increased power, by means of the comparative dryness and elasticity of steam; steady maintenance of pressure, and greatly diminished loss of heat by radiation. To steam-users not working at night the system will prove invaluable, as steam is maintained at 50 lbs. pressure for quite 12 hours or more without banking-up, thus saving daily both fuel and labour in getting up steam. It is further observed that priming is practically unknown with this system, high shafts are rendered quite unnecessary, smoke nuisance is abated (for this the Silver Medal was awarded at the late Exhibition at Kensington), and any description of fuel can be effectively burned. Slack and small bituminous coal is readily burned with a me-

chanical stoker in combination with Livet's patent setting—a fact of the highest importance to all large steam users, as such coal is burned at the rate of 8 cwt. per hour in a Lancashire boiler with 3-ft. tubes with great economy and without smoke, though the height of stack need not exceed 60 ft. Among the other advantages are—reduction of clinkers and ashes and of the labour of stoking; considerable reduction of temperature in stoke holes, which is of great importance in marine boilers; great durability of fire-bars; ready access to flues for inspection, owing to their large sectional area; and facility of adaptation to existing boilers. The invention is equally applicable to land boilers, and it appears that Livet and Company (Limited) is prepared to guarantee, in the case of land and marine boilers set and adapted under their supervision, a minimum saving of 15 per cent., and in the case of vertical boilers a minimum saving of 25 per cent., but the saving, it is added, will probably exceed the guaranteed minimum, increasing it in most cases to 25 and 35 per cent. respectively. Existing boilers of any type can be re-set, so as to embody Mr. Livet's improvements. If the above account is correct, and it is guaranteed to be so by the company, and vouched for by a long list of steam users, the inventions described may claim an important rank.

FOREIGN MINING AND METALLURGY.

There is little news to communicate with respect to the Belgian coal trade. The deliveries of industrial qualities continue considerable; but, notwithstanding this, some quantities are going into stock. Prices are fairly maintained, and are still from 5d. to 10d. per ton higher than they were in April, 1881. Some contracts which have been in course of negotiation for some weeks are stated to have been now finally carried through. This is regarded as a good augury for the future. Quotations for coal have experienced little change upon the Belgian markets. The condition of the German coal trade is not very favourable, prices showing a downward tendency as regards almost every description. The deliveries of German coal upon foreign markets are falling off. Thus, Silesia is exporting less to Austria, while the Westphalian districts have forwarded less coal to Belgium and Holland. It is especially as regards the last-named country that the decline in the exports of German coal is most noticeable; this is attributed to the lowness of water in the Rhine, which has impeded deliveries by boat. The French enquiry for German coal has been rather considerable. Industrial coal has been less sought after in Germany in consequence of depression which is beginning to appear in the German iron trade. Upon the whole, the situation must be pronounced less favourable, and to secure important contracts sensible concessions would certainly be made in prices.

The German iron trade has shown some little depression. New business has been scarce, and it has been difficult to carry through transactions, consumers having supplied their requirements for the present. Luxembourg pig has been supported with less firmness. Some special qualities have continued in demand, as, for instance, iron for construction purposes; but, speaking generally, the enquiry for metallurgical products has been languid. M. Paul Trasenster, in an interesting article on the course of metallurgical industry in 1881, estimates the world's production of pig last year at 19,700,000 tons. In this total Great Britain figured for 8,500,000 tons; the United States for 4,205,000 tons; Germany for 2,900,000 tons; France for 1,894,000 tons; Belgium for 613,000 tons; and other countries for 1,500,000 tons. M. Trasenster estimates the world's production of iron last year at 7,698,000 tons. In this total Great Britain figured for 2,000,000 tons; the United States for 2,115,000 tons; Germany for 1,358,000 tons; France for 985,000 tons; Belgium for 488,000 tons; and other countries for 742,000 tons. The production of steel in ingots last year is estimated by M. Trasenster at 5,220,000 tons. To this total Great Britain contributed 1,700,000 tons; the United States, 1,570,000; Germany, 950,000 tons; France, 950,000 tons; Belgium, 138,000 tons; and other countries, 400,000 tons.

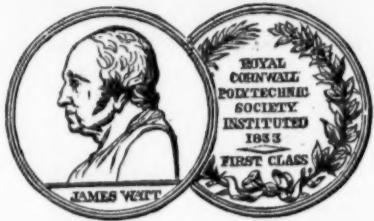
The tone of the Belgian iron trade appears to have slightly improved, if anything. The demand has certainly not become more considerable, but still the current of orders has not fallen off, and some rather considerable contracts are stated to be in course of negotiation. Consumers continue to maintain an attitude of reserve, at the same time they have made proposals for new business, although it is difficult to come to an understanding in the important matter of prices. Some rather important proposals are stated to have been received in Belgium from China, and contracts have been nearly concluded, although a complete agreement has not yet been arrived at upon certain points. Stocks of iron are stated to have been run down very low in the Celestial Empire. Tenders for additional coal trucks for the Belgian State railways have been officially invited. It appears that it is proposed to place 2000 additional coal trucks upon the State lines; these trucks are to be constructed so as to carry 10 tons each. Quotations for pig have been pretty well maintained in Belgium. Business has been done in English casting pig at 27. 10d. per ton delivered at Antwerp. Girders have made 5l. 16s. per ton in Belgium; plates have been in no great demand at 7l. 8s. per ton.

WINDING GEAR FOR MINES.—Some improvements, intended to prevent the great wear in the ropes by one coil chafing against the other, and obviating the necessity for coiling the ropes round the drums usually employed, have been patented by Mr. J. CRAVEN, of Wakefield. He employs a single winding rope, an upper set of grooved head gear pulleys, and a lower set of grooved winding pulleys, each consisting of two pulleys and an intermediate grooved pulley between the two sets. The rope is attached at one end to one of the winding pulleys (to which the motive power is applied), and back over the intermediate pulley, and then under the other winding pulley, and thence over the other head gear to the other cage, to which the end of the rope is attached. By this arrangement not only is greater durability of the rope ensured, but all tendency to slipping off the rope is entirely obviated, as in proportion as the weight of the load is increased the adhesion of the rope is augmented. The bearings of the intermediate pulley may be carried in a movable frame, either inclined or otherwise, so as to admit of the pulley being adjusted as required in order to maintain the rope taut.

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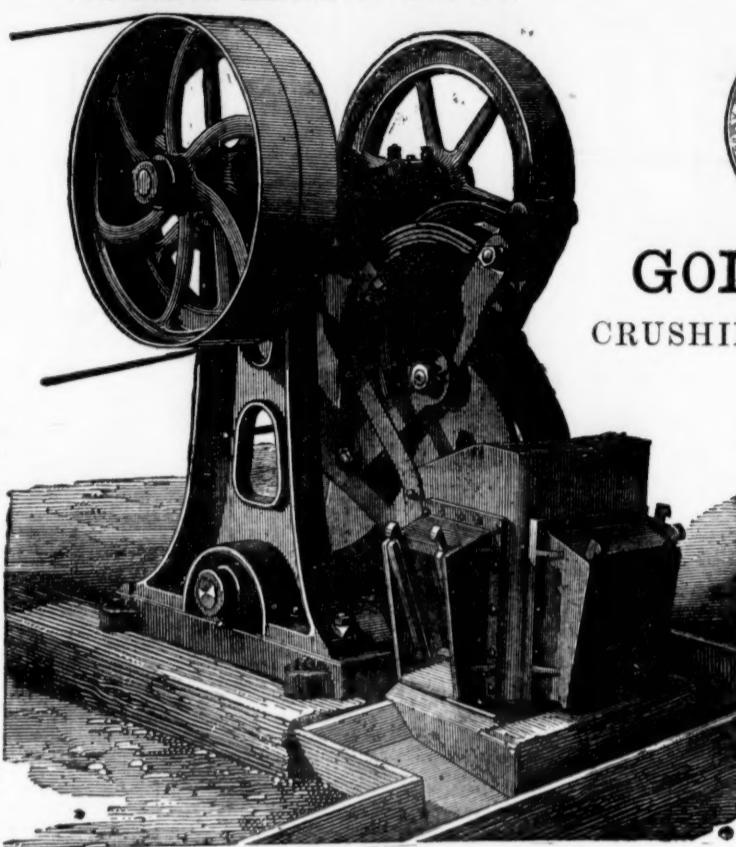
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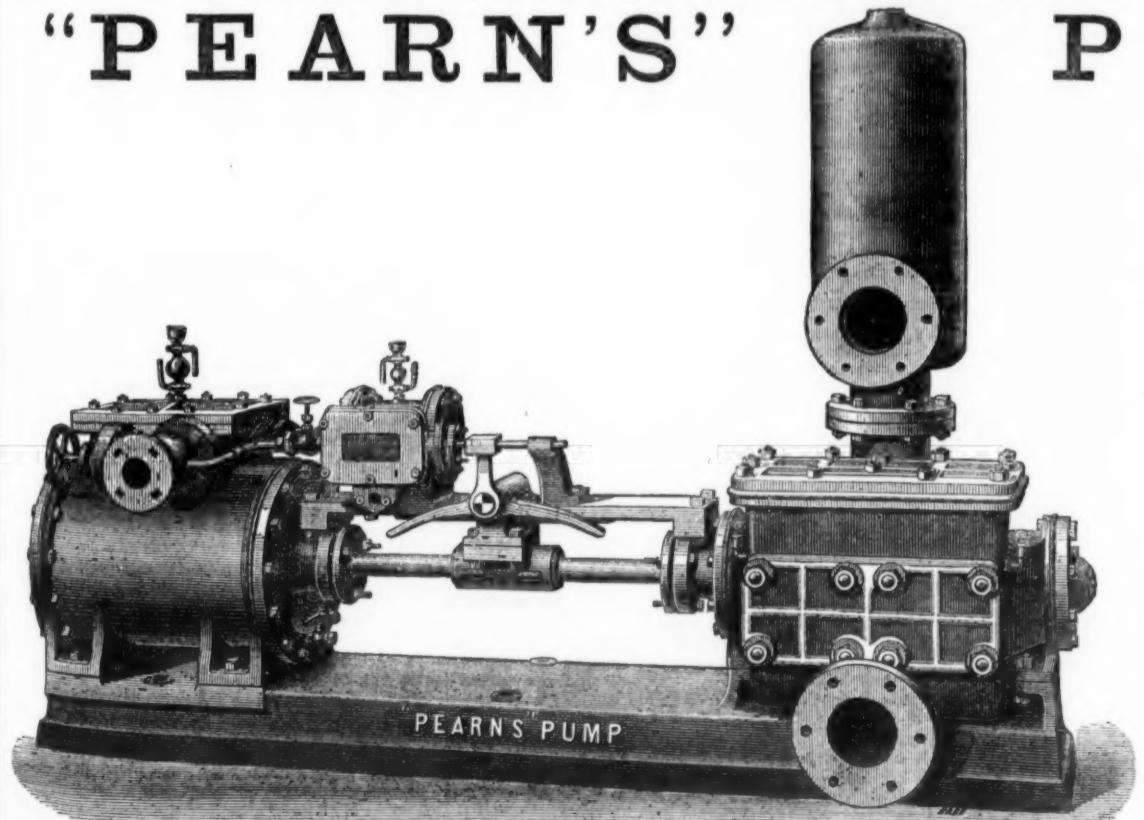
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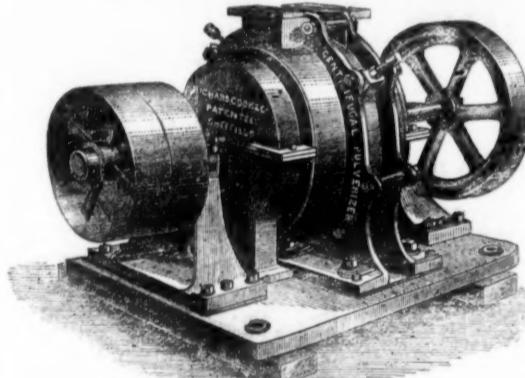


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For depositing Brass upon Ornamental Iron Work, Fenders, Fire Irons, Locks, Bright Steel Goods, and upon articles made of Lead, Pewter, Zinc, Tin, and Britannia Metal.

For depositing Tin upon Bright Steel Goods, or upon rough Iron. The insides of Iron or Copper Pans, Kettles, and Culinary Utensils (Chemically pure).

For depositing Copper reproductions of Art Subjects, Stove and Door Panels, Plates, Medallions, &c., from Plaster, Wax, or other Moulds.

For Covering the most delicate Ferns, Flowers, Insects, &c., by which perfect facsimiles can be obtained in Copper and finished in Silver, Gold, or other Metals, or various coloured oxides, forming the most elegant ornaments which can be manufactured at a nominal cost.

For depositing Electrotypes for Printers, Steel Plate and Bank Note Engravers, &c.

For depositing Steel or Nickel upon Copper Electrotypes, to protect the surfaces from the action of Mercurial Inks, and at the same time preserving the clear brilliancy of vermillion, and other colours having mercury in their composition.

For depositing Tin upon the backs of Electrotypes, completely superseding the old method.

For depositing Gold, Silver, Nickel, Bronze, Zinc, &c., in Electro-Plating.

SPECIALITIES.

THE "Elmore" Dynamo-Electric Machine

For ELECTRIC LIGHTING (Arc and Incandescence) for Public Streets and Gardens, large Open Spaces, Theatres, Factories, Workshops, Hotels, Houses, &c.

ENTIRE SYSTEM COMPLETE, EFFICIENT, AND INEXPENSIVE.

Special Apparatus for the application of Ozone and other Gases for Bleaching Oils, Sugars, Fabrics, &c.

Complete Outfits. The "Elmore" Machines and appliance for TIN-PLATE MANUFACTURE.

Complete Outfits. The "Elmore" Machines and appliance for GALVANIZING.

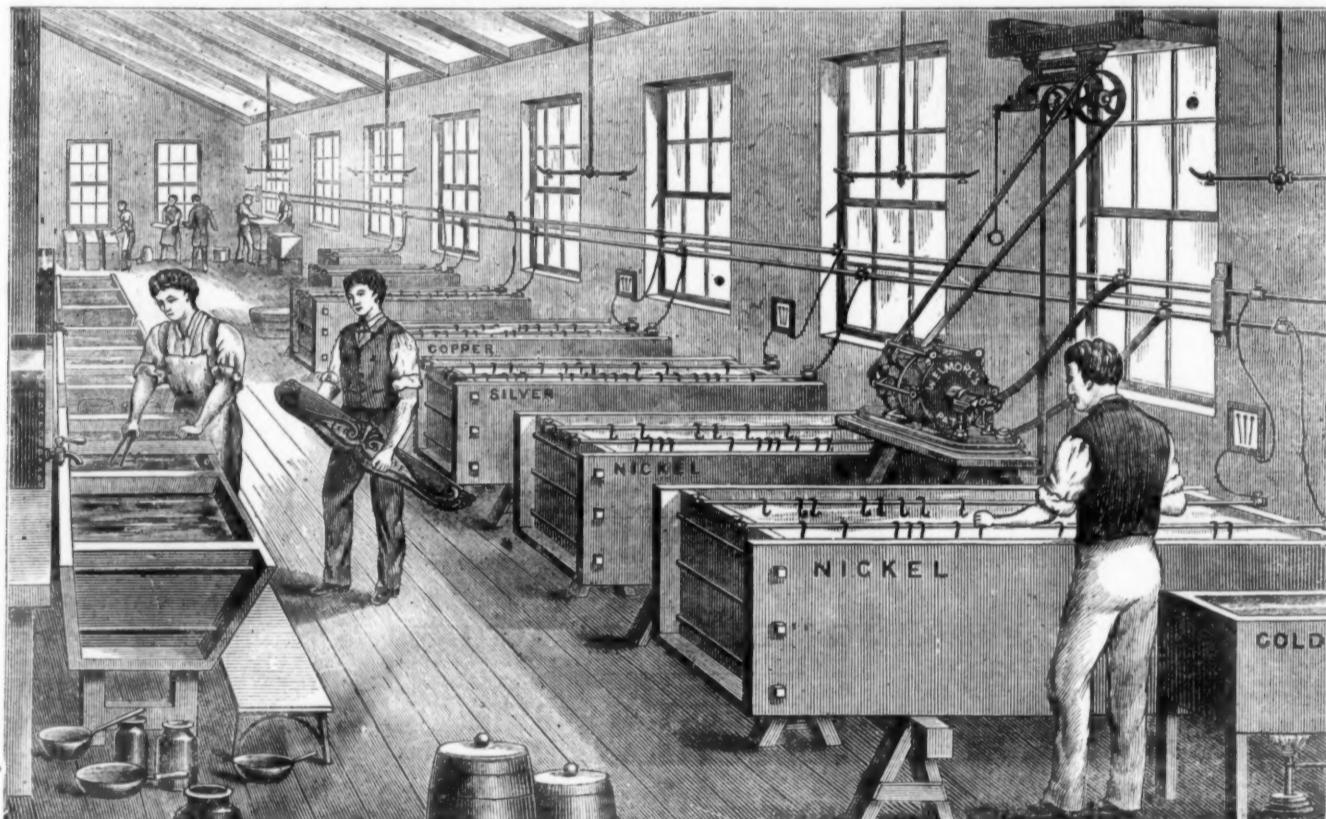
Complete Outfits. The "Elmore" Machines and appliance for REFINING METALS.

Complete Outfits. The "Elmore" Machines and appliance for EXTRACTING METALS FROM ORE,

Complete Outfits. The "Elmore" Machines and appliance for GENERATING OXYGEN, Hydrogen, Chlorine, Ozone, and other Gases.

COMPLETE WORKING OUTFITS FURNISHED.

COMPLETE WORKING OUTFITS SUPPLIED.



The above represents an Electro-Plating Works in which an "ELMORE" PATENT DYNAMO-ELECTRIC MACHINE is being used for the simultaneous deposition of Nickel, Silver, Copper, Bronze, Brass, Gold, Tin, Zinc, &c., from their Solutions.

TESTIMONIALS, &c.

From the "HARDWARE TRADE JOURNAL."

A MODERN PLATING ESTABLISHMENT.

"Mr. WILLIAM ELMORE, of 91, Blackfriars Road, London, S.E., is busily engaged fitting up the Art Metal Depositing Works of the Electrolytic Company, Charlotte Street, Blackfriars. The Electro-plating tanks of nickel, copper, brass, zinc, and tin, holding several thousands of gallons each (worked by an 'Elmore' Patent Dynamo-Electric Machine, capable of depositing about 500 lbs. of metal per day), and the specially designed and constructed polishing machinery will all combine to constitute this most gigantic and complete arrangement of the kind in the world. Here boiler tubes, each over 20 ft. in length, may be coated with copper, large ornamental iron lamp posts, and similar massive from structural objects of great weight may be covered with electro-deposited copper, forming, when finished, a complete shell of bronze, which may be nickel-plated, or even silver-plated, if desired. Large rough or polished iron surfaces may be coated with brass, or zinc, or tin. Copper electrotype copies are taken of art subjects, the reproduction being so perfect that the process is used for multiplying plates from which bank-notes are printed, and the most delicate ferns, flowers, leaves, and insects are coated with copper, and afterwards with gold, silver, nickel, &c., for use as ornaments of various kinds. Fenders, fire-irons, grates, &c., may be brassed. The largest marine engines may be nickel-plated in the large nickel-plating plant, worked by the powerful 'Elmore' machine with ease and certainty, which only a few months since would have been pronounced almost impossible. The Electrolytic Company, we understand, express perfect satisfaction with the work already completed by Mr. Elmore, and there is no doubt that with that gentleman's large practical experience the company could not have been in better hands. The entire premises will be lighted by the 'Elmore' system of electric light."

From the "LONDON MINING JOURNAL."

"The new 'Elmore' Dynamo-Electric Machine can be seen in operation in London, and is considered one of the most wonderful scientific apparatus which has yet been brought before the public; it should be inspected by all who are interested in any kind of metallurgical operations."

"Mr. ELMORE has just received two pieces of ordnance from Her Majesty's Works at Chatham, with an order to nickel-plate the same, together with the carriages upon which they are mounted. Mr. Elmore has done similar work for the Government on previous occasions, and it will be remembered that the screw propellers used on the torpedo boats were nickel-plated by him. The 'Elmore' Dynamo-Electric Machines and complete electro-plating outfits have been supplied to Government Departments at home and abroad."

Dynamo-Electric Machines, Outfits, &c., supplied to (London) Messrs. Thos. De la Rue and Co., Cassell, Petter, and Galpin, The India Rubber Company (Limited), Silvertown, The Nickel Plating Company, Joseph Woodricka, Kelly and Co., A. S. Cattell and Co., &c., &c., (Birmingham) Messrs. Wright and Butler, Joseph Woodward, The Griffin Gilding and Plating Company, and over 500 others.

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From the NICKEL PLATING COMPANY,

"Your Machine does its work most satisfactorily, and has never once reversed current, which the Weston Machine frequently did."

From the ELECTROLYTIC COMPANY,

ART METAL DEPOSITING WORKS,
CHARLOTTE STREET, BLACKFRIARS, LONDON.

"The 'Elmore' Dynamo-Electric Machine and entire outfit which you have supplied to this company have given perfect satisfaction."

From the NICKEL AND SILVER PLATING WORKS,

2, CHARLES STREET, CURTAIN ROAD, E.C.

"Having had one of the 'Elmore' Patent Dynamo-Electric Machines in constant use for several months, it gives me great pleasure to say that with it I have been able to deposit four times the weight of metal per day which I had been enabled to do with the Dynamo-Electric Machine, which it has displaced in my establishment."

From the LONDON NICKEL PLATING COMPANY.

"We have much pleasure in expressing our entire satisfaction with the nickel-plating solution, anodes, and Dynamo Machine that you have supplied us with."

From the DYNAMO-ELECTRIC PLATING WORKS,

2, OLD SWAN LANE, LONDON.

"The quality of the nickel solutions and anodes at these works, which were supplied by you, is most satisfactory in every way. The Dynamo Machine also works excellently, and has given no trouble whatever since it has been started."

AND MANY OTHERS.

INFRINGEMENTS.—H. R. MARSDEN having obtained information of infringements of his numerous Patents, hereby gives notice that he will PROCEED AGAINST ANY ONE HE MAY DISCOVER MAKING OR USING THE SAME.

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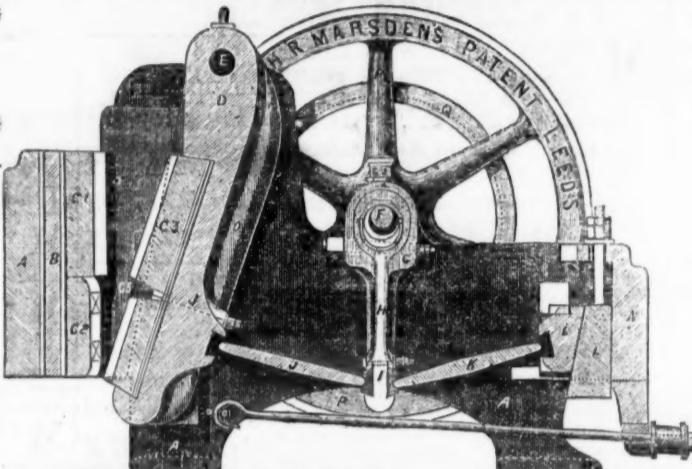
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EXTRACT FROM TESTIMONIALS.
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"I have great pleasure in bearing testimony to the merits and capabilities of your patent combined fine crusher and sieving apparatus. I have tried it on a variety of ores and minerals, and it pulverizes them with equal success. You can put in a small paving stone, and bring it out like flour."

"The power required to drive it is very small, being from 4 to 5-horse, and the repairs are almost nil."

"I am sure the machine will be a success, and a great one, and there is any amount of demand for such a machine. We can work it with 20 lbs. of steam, and our engine, which is a 12-h.p., plays with the work, in fact we run the Stonebreaker and the Pulveriser both together with 35 lbs."



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"Your 10 x 7 crusher at the Aruba Gold Mines will crush 90

100 tons per 24 hours of the hardest gold quartz to 1" size."

"Some of your testimonials do not give your machines half their due. I have seen men hammering away on a big rock for a quarter of a day which your machine would reduce to the required size in a quarter of a minute. I would guarantee that your largest size machine would reduce more of the Cornish tin capels (which is the hardest rock of England) in a day than 200 men, and at 1-25th the cost."

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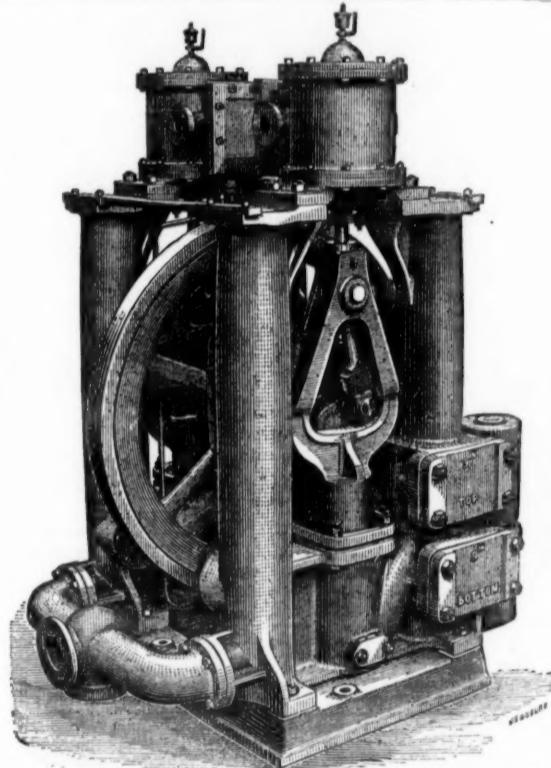
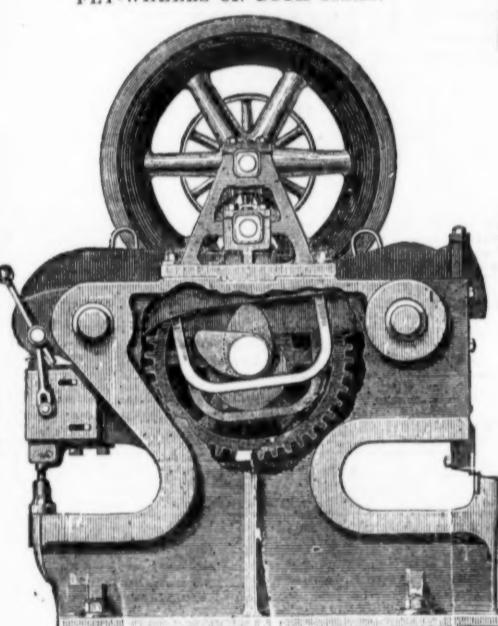
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